Public Utilities

Volume 62 No. 10 November 6, 1958

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Subscriptions: Address correspondence to PUBLIC UTILITIES FORTNIGHTLY, circulation department, 332 Pennsylvania Building, Washington 4, D. C. Allow one month for change of address.

Single copies $1.00. Annual subscription price (26 issues a year): United States and possessions, $15.00; Pan American countries, $15.00; Canada, $16.00; all other countries, $17.50.

Entered as second-class matter April 29, 1915, under the Act of March 3, 1879, at the Post Office at Baltimore, Md., December 31, 1936.

Public Utilities FORTNIGHTLY

VOLUME 62 NOVEMBER 6, 1958 NUMBER 10

ARTICLES

FEATURE SECTIONS

PUBLIC UTILITIES REPORTS, INC., PUBLISHERS

Executive, Editorial & Advertising Offices .....332 PENNSYLVANIA BLDG., WASHINGTON 4, D. C.
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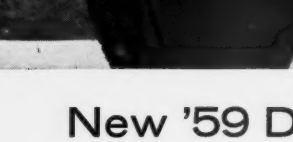

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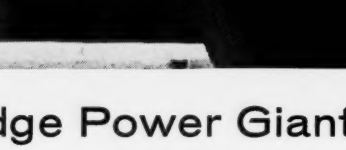

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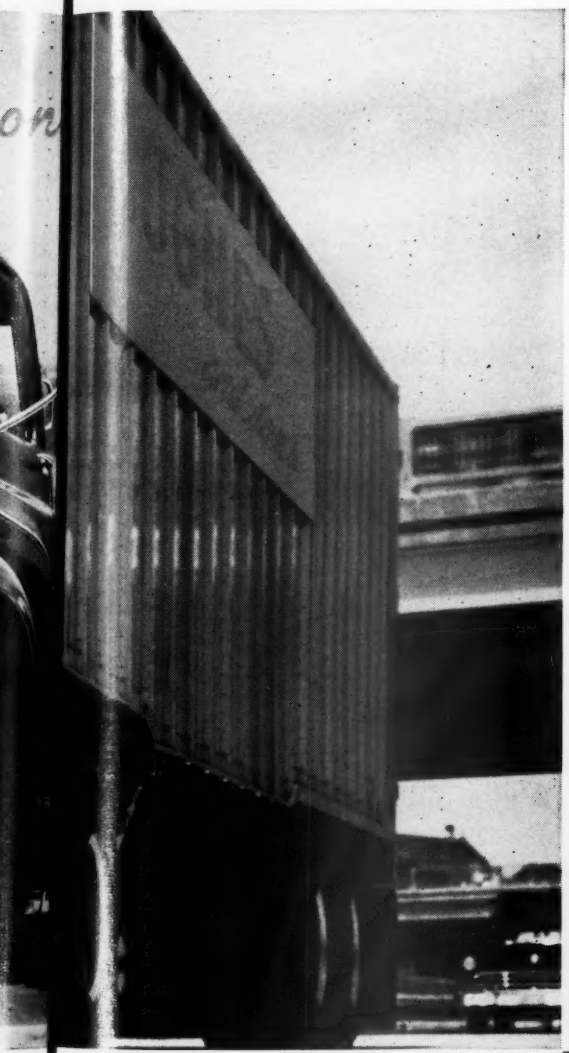

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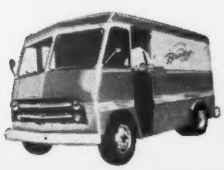

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Pages with the Editors

IN this issue we present, according to the custom followed by this magazine in recent years, the text of the addresses delivered at the Section of Public Utility Law of the American Bar Association during its convention in Los Angeles last August. These addresses, by distinguished utility specialists in the field of public utility law, are to be found in the Appendix (beginning on page 792). The quality of these thoughtful statements by the members of the bar engaged in regulatory practice will be found to measure up to the usual standard of excellence attained in former years. For that reason, readers may want especially to preserve this particular issue for future reference.

ONE is impressed by the wide range of subjects included in the program of the American Bar Association, Section of Public Utility Law. From the complex regulatory problems of atomic energy development in the electric field to the difficult economic plight of the railroads, these Los Angeles papers carefully and objectively analyze a variety of regulatory subjects.

IF one might indulge a slightly facetious reference, our readers can find a real bargain here. Legal opinion, particularly from high-grade specialists in any field of law, is never noticeably inexpensive. But here we have a collection of papers from top-grade lawyers talking to each other—*for nothing!* We suggest that our own readers therefore share the benefits of this opportunity by reading such words of wisdom, in the accompanying Appendix, as may be found helpful in their own respective affairs.

LAWRENCE S. MUNSON

FERGUS J. MCDIARMID

ADDING to the value of this bargain are several fine articles in the first section of this issue. There is, for example, the opening article by FERGUS J. MCDIARMID, vice president of The Lincoln National Life Insurance Company. In keeping with the usual high caliber of his contributions which have appeared in this magazine from time to time, MR. MCDIARMID here has given careful consideration to the real problem facing public utility companies in raising necessary capital to take care of plant expansion.

IT is a paradox that notwithstanding an almost perfect record for paying interest, the public utility bonds like other bonds are not favorites in today's volatile financial market. In fact, it would not be amiss to say that bonds are becoming wallflowers while common stocks seem to go on

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WILLIAM J. MCKENNA

to giddy heights when gauged by conservative relationship to yield. MR. MCDIARMID has some good advice for public utility financial men who must adjust their bond financing to meet the requirements of the insurance companies and other institutional bond investors—which seem to be shaping up as the only extensive and reliable bond market for public utility bonds.

* * * *

LAST month there appeared in the *Harvard Business Review* a general report covering over eighteen major industries and 600 of the country's top companies. The subject of this report was a survey of compensation paid to executives. It was prepared by McKinsey & Company, Inc., management consultants, from sources such as annual reports, proxy statements, SEC files, etc.

As a specialized by-product of this overall survey, LAWRENCE S. MUNSON of the McKinsey firm and one of the specialists working on the overall data, made an analytical study of compensation of public utility executives. He used as a base a number of representative utility companies. The resulting comparisons to be found in his article on "Utility Executives' Compensation," beginning on page 742, are clearly, graphically, and objectively set forth with suitable text and charts.

MR. MUNSON is a graduate of Harvard University and Harvard Law School. He is a member of the New York bar where he practiced for several years with the well-known firm of Willkie, Owne, Farr, Gallagher & Walton. During World War II and during the Korean War he served as a staff officer with the U. S. Air Force. He is now a staff member of the McKinsey organization.

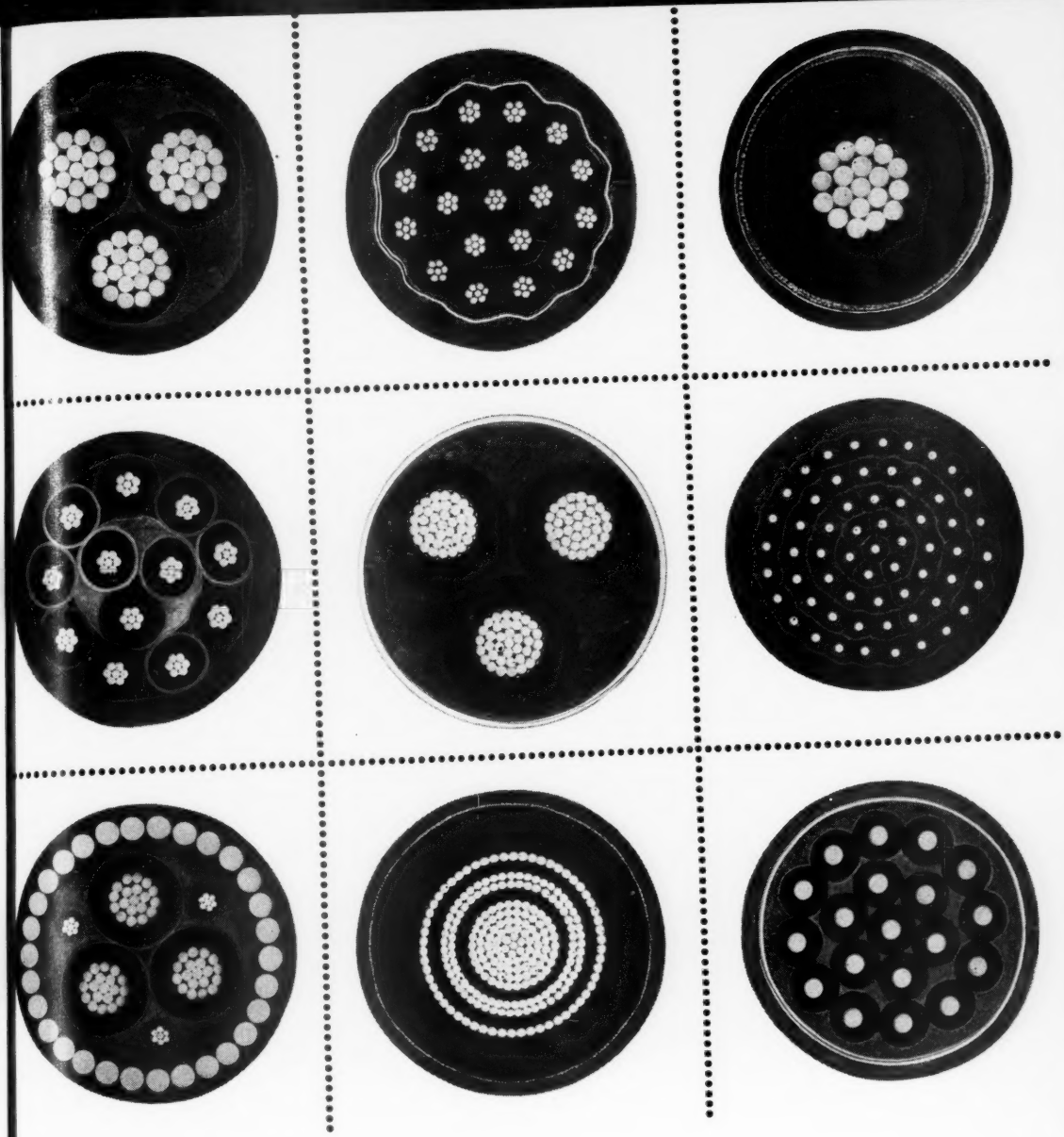
* * * *

WILLIAM J. MCKENNA, whose article on the unusual combination of transit fares and free soap coupons begins on page 746, is assistant professor of economics at Temple University in Philadelphia. He is a graduate of the Wharton School of the University of Pennsylvania (BS, '36; MS, '38; PhD, '51). He has been a member of the faculty of Temple University since 1946. He has taught public utility courses, as well as general courses on economics and political science. He has also testified in cases before the Pennsylvania Public Utility Commission.

IT is easy to understand how the "free coupon" inducement for advertising soaps and detergents would make its appeal primarily to the transit industry. That is a utility service which is suffering from a diminishing patronage. However, it challenges one's imagination to think what would happen if this technique were applied to other forms of utility service, such as gas or telephone. The tie-in between food products and gas cooking is obvious. Telephone communication could be tied in with almost anything. Perhaps it is just as well that these are expanding services which do not need the incentive of free coupons to keep their usage growing. Will the day ever come when we walk into a department store and find that a box of cigars or a carton of cigarettes contains coupons entitling us to make telephone calls? Or will the food chains ever put out coupons which are good for credit on our other utility bills? We think not—not for a long time anyhow.

THE next number of this magazine will be out November 20th.

The Editors



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(November 20, 1958, issue)

★

WANTED: PRACTICAL LIAISON BETWEEN UTILITIES AND HIGHWAY AUTHORITIES

This is an exchange of views between spokesmen and representatives of various public utility companies—gas, electric, telephone, and water—and federal and state highway authorities. It deals with the advantages of establishing a practical liaison between highway authorities and public utility industries (both publicly and privately owned) and others affected.

E. R. Lockhart, vice president of Stone & Webster Service Corporation, introduces the subject, with special emphasis on the problem of relocating utility facilities as the result of federal-aid highway construction. While this general problem has been recognized in many quarters, it is doubtful if very many people, including public utility company people themselves, fully appreciate the complications involved, especially near the approaches to larger city and metropolitan areas.

Don S. Holdridge, general attorney for the General Telephone Company of the Southwest, reflects the viewpoint not only of the independent telephone companies but the telephone industry as a whole. Because the independents are located to a large extent in "open country" adjacent to the larger cities served by the Bell and the larger independent companies, the smaller independent telephone concerns have an important stake in the solution of highway relocation.

David Dunlap is counsel for the Pennsylvania Electric Association, Pennsylvania Gas Association, and Pennsylvania Waterworks Association. With this background he is able to reflect the viewpoint of gas, electric, and water utilities in the discussion of the economic, legal, and physical difficulties which grow out of the highway construction program and its relation to the location and relocation of utility facilities.

Edward S. Harris is chairman of the right-of-way division of the Connecticut Highway Department. He finds that state highway planning practices are being adjusted to long-range planning needs. But while there is co-operation and discussion between state highway agencies and local and private planning groups, this author sees the need for an "open-door policy." Under such an arrangement any utility could have reasonable access to authorize contact with the state highway departments to obtain necessary information.

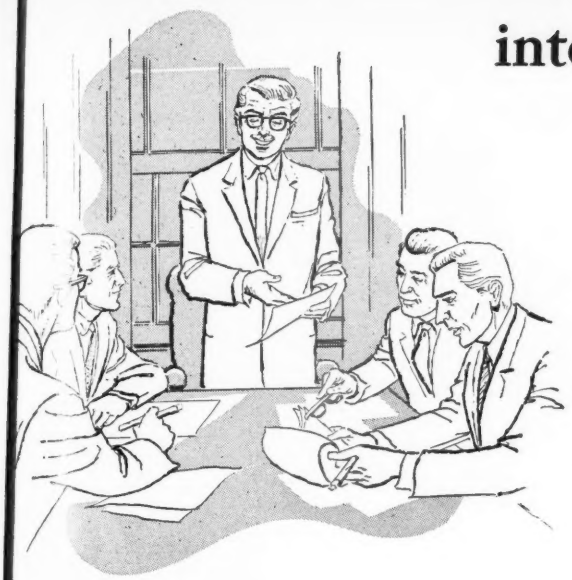
George M. Williams is assistant commissioner for engineering of the U. S. Bureau of Public Roads of Washington, D. C. He outlines the advantages of good and timely communication between the two government highway agencies (federal and state) and the utility operating agencies. Full and free interexchange of information, he finds, is a prime requisite of a practical liaison in this field.

ADVANTAGES AND DISADVANTAGES OF HIGH DEBT RATIO

Michael J. Kraemer is an executive consultant for Commonwealth Services Inc. Enormous amounts of capital will be required to finance the great expansion of utilities which is doubling every eight to ten years. This poses problems for management and investor alike. Should the proportion of total capitalization and surplus (net assets) evidenced by long-term debt be increased because of the income tax deductibility of interest payments? What are the advantages of stock financing?

★

Also . . . ***Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.***



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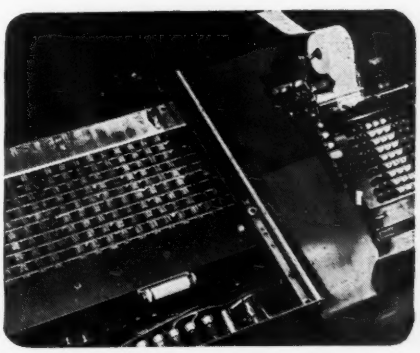

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"Normal competitive conditions are new to a lot of people. There has been a lot of talk about built-in stabilizers and some persons have come to believe that the so-called law of supply and demand may have been repealed. Personally, I do not think it has been. I doubt if it can be and I do not think it should be."

EDITORIAL STATEMENT
The Wall Street Journal.

"The federal government, for all its vastness, has one thing in common with every other organization. The people down the line will take their cues from the people in charge. So the only way to get economy in government is for 'the bosses' to insist on it. When the public insists on it, so will Congress. So will the President and all around him."

S. C. HOLLISTER
Dean, Cornell University, College of Engineering.

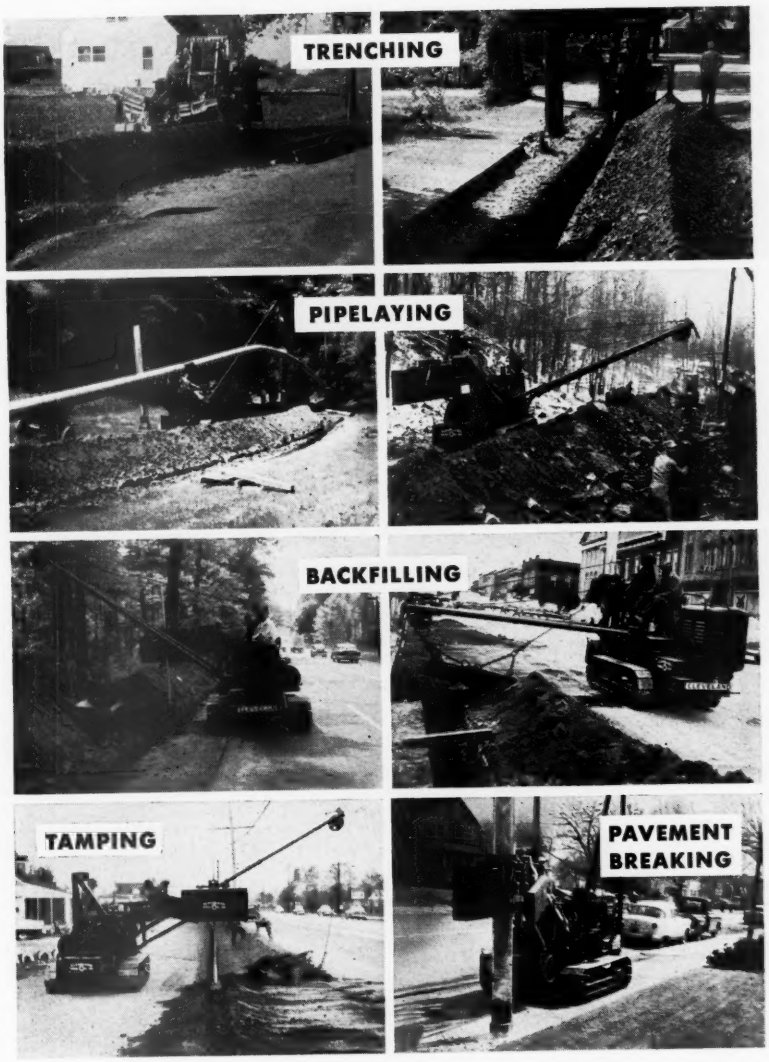
"What is there in this power situation that should receive the active attention of businessmen generally? Power is the energizing force of all industry. Control of this force by government operation affords a powerful entry by government into the remainder of the industrial activity of the country. Any act, therefore, on the part of business which condones expansion in the power field can well be an act which, in the end, will be inimicable to the business world, itself . . ."

FREDERIC NELSON
Associate editor, The Saturday Evening Post.

"Of course railroads, like any public utility, require regulation, but there is no excuse for the continuance of the kind of multiform regulation which a witness before the Smathers Committee described this way: 'We are being strangled to death by these ropes and strings that enmesh, pulled by the hands of thousands of politicians, each trying to satisfy some special interest group —either a chamber of commerce, a labor union, a commuters' association, or a farmers' co-operative.' That isn't regulation; it's murder."

GEORGE E. SOKOLSKY
Columnist.

"It is unfortunate that few in political life like to face the unpleasant facts of national existence. They prefer avoiding the pitfalls of reality. They cannot hide the facts or hide from them. Every day an American woman goes to market, she knows that the inflation grows increasingly more unpleasant. She can feel it in the weight of her shopping bag. She can tell it from the prices which seem to her to make no sense at all. The housewife calls it high cost of living, but what it is is a perilous inflation which can become a political and social cancer."



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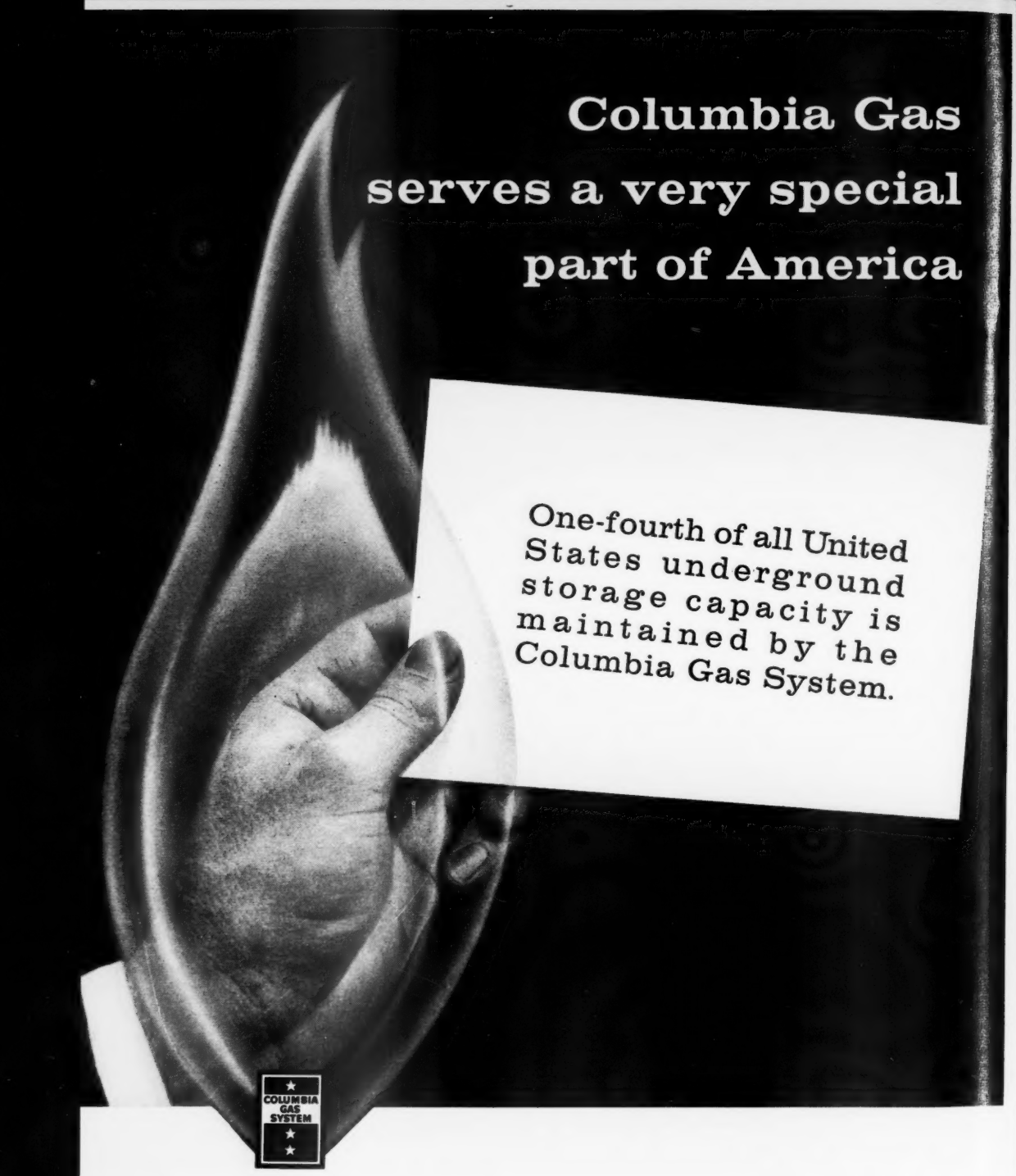

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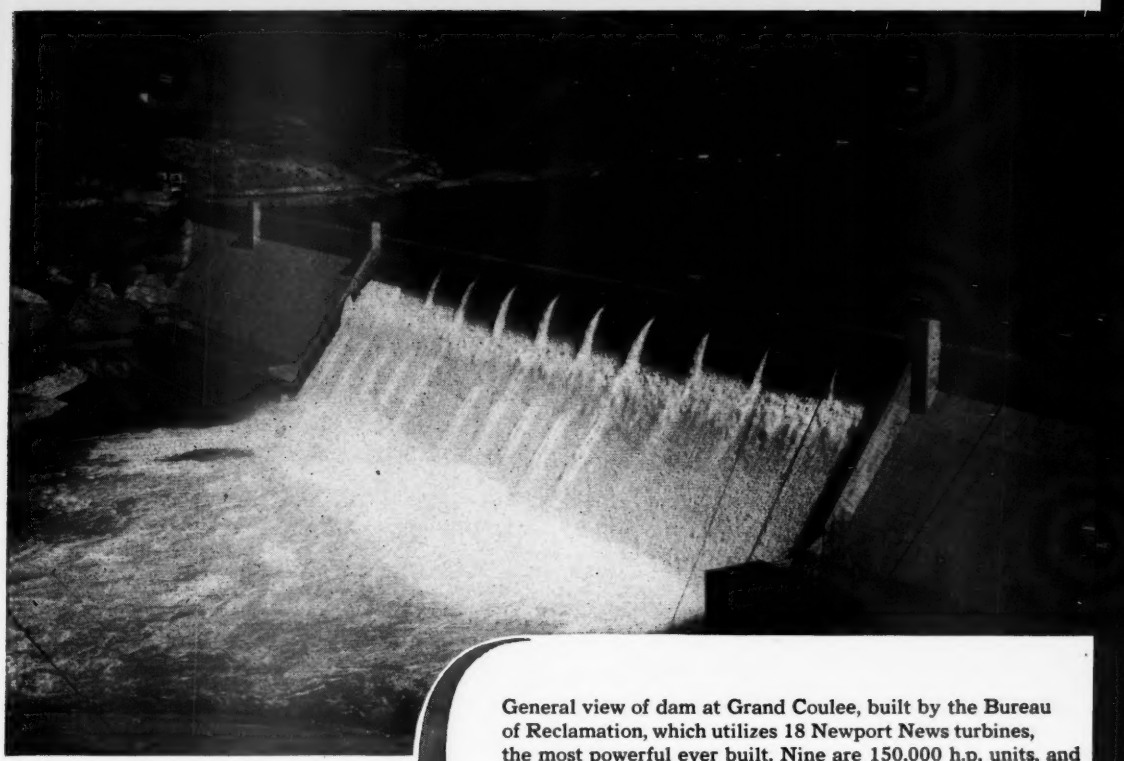

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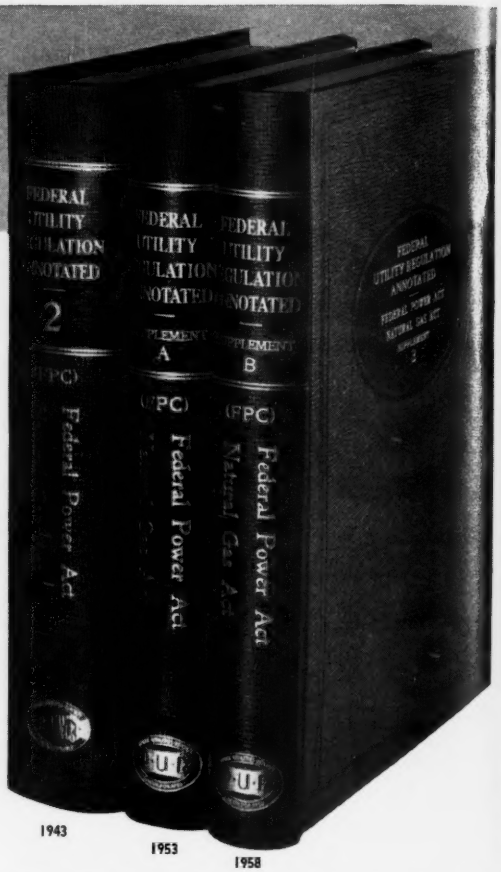

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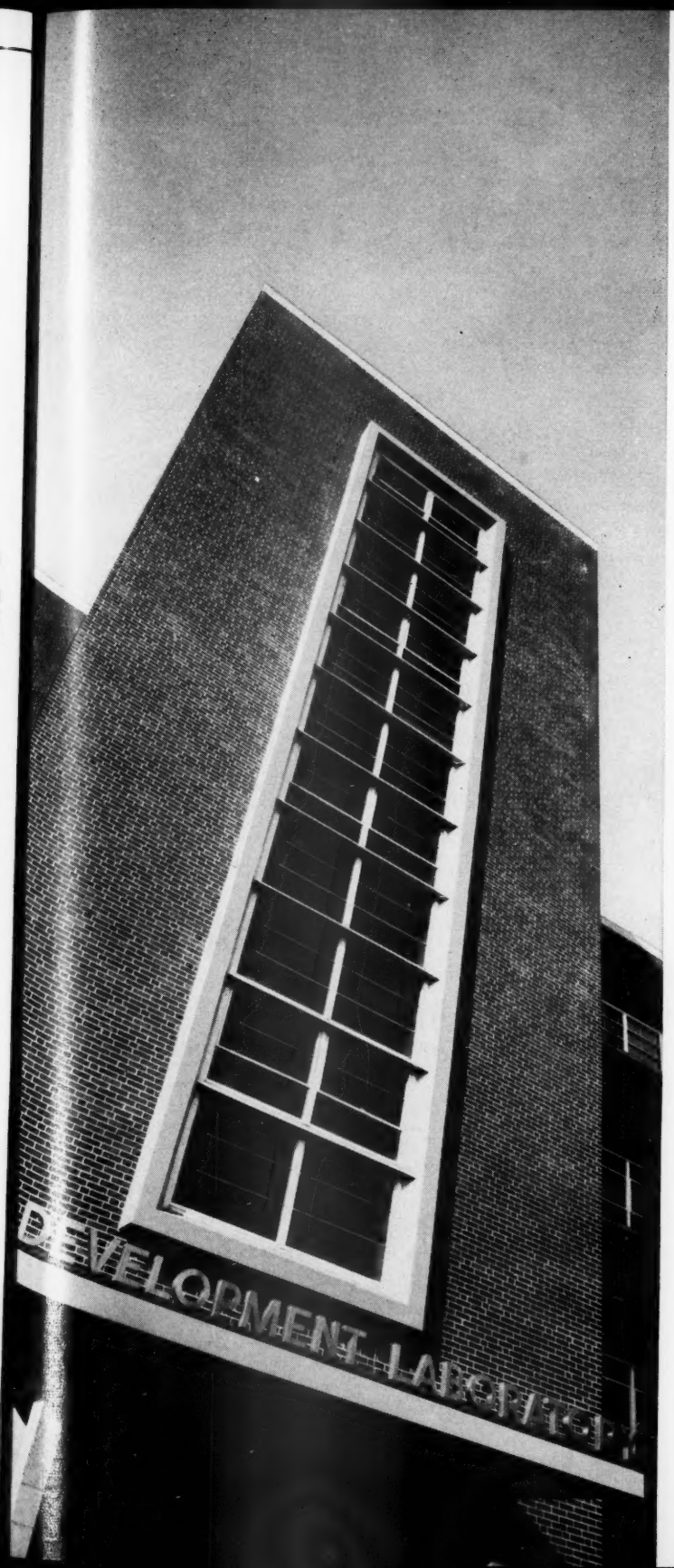

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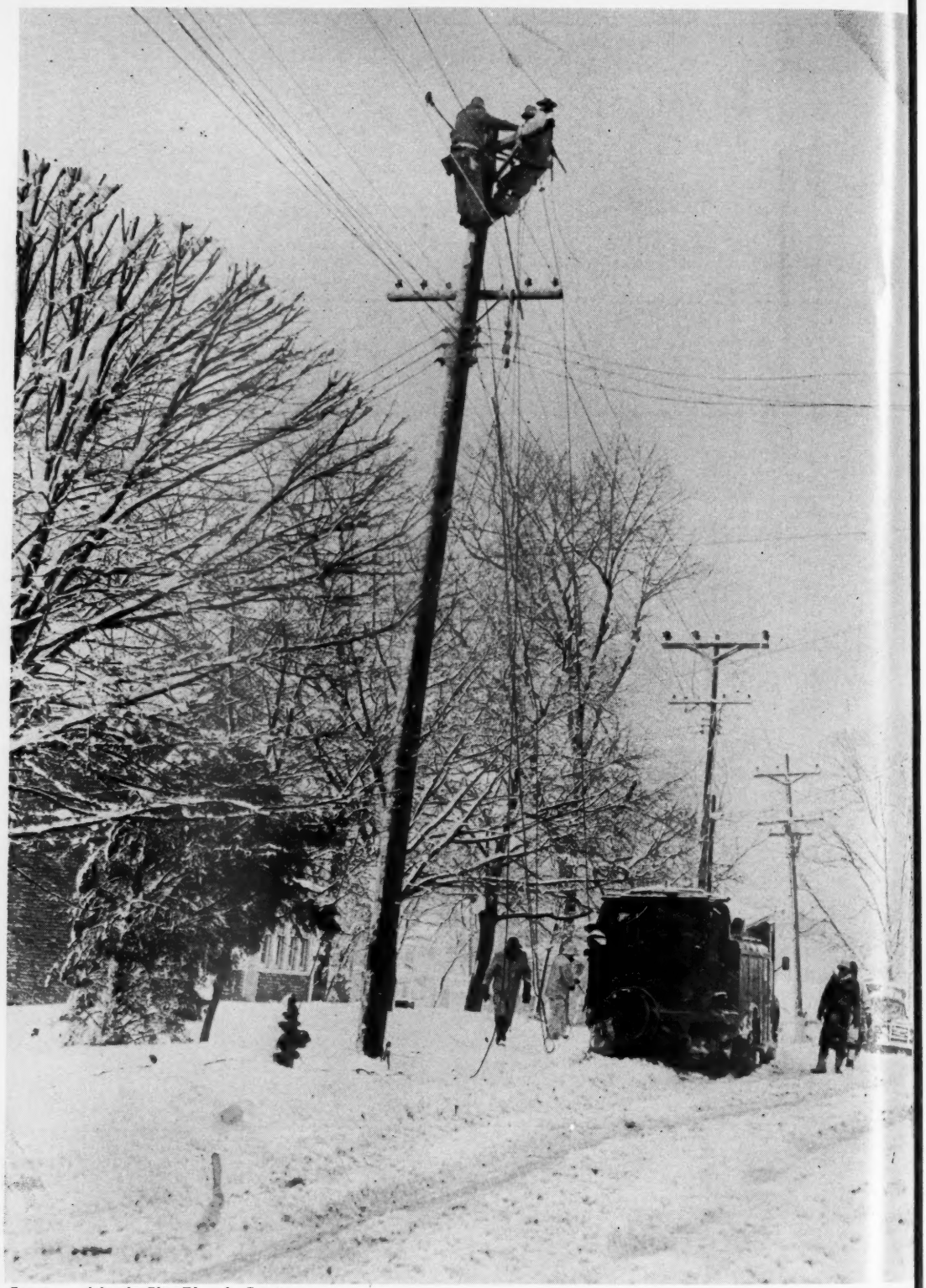
NOVEMBER

Thursday—6 *Oklahoma Telephone Association ends two-day annual convention, Oklahoma City, Okla.*	**Friday—7** *American Institute of Mining, Metallurgical, and Petroleum Engineers, Pittsburgh Section, begins annual off-the-record meeting, Pittsburgh, Pa.*	**Saturday—8** *American Society of Mechanical Engineers will hold annual meeting, New York, N. Y. Nov. 30-Dec. 5.* ***Advance notice.***	**Sunday—9** *American Society of Refrigerating Engineers will hold semiannual meeting, New Orleans, La. Dec. 1-3.* ***Advance notice.***
Monday—10 *American Petroleum Institute begins convention, Chicago, Ill.*	**Tuesday—11** *Interstate Oil Compact Commission will hold annual meeting, Kansas City, Mo. Dec. 1-3.* ***Advance notice.***	**Wednesday—12** *Georgia Telephone Association begins annual convention, Savannah, Ga.*	**Thursday—13** *National Warm Air Heating and Air Conditioning Association will hold annual convention, Cleveland, Ohio. Dec. 1-4.* ***Advance notice.***
Friday—14 *National Electrical Manufacturers Association ends five-day annual meeting, Atlantic City, N. J.*	**Saturday—15** *Florida Telephone Association will hold annual convention, St. Petersburg, Fla. Dec. 4, 5.* ***Advance notice.***	**Sunday—16** *American Nuclear Society will hold annual meeting, Detroit, Mich. Dec. 8-10.* ***Advance notice.***	**Monday—17** *National Association of Railroad and Utilities Commissioners begins annual convention, Phoenix, Ariz.*
Tuesday—18 *American Standards Association begins meeting, New York, N. Y.*	**Wednesday—19** *National Reclamation Association begins annual meeting, Houston, Tex.*	**Thursday—20** *New England Gas Association, Manufacturer-Distribution Division, begins conference, Worcester, Mass.*	**Friday—21** *Mid-West Gas Association ends three-day gas meter and service school and conference, Ames, Iowa.*



Courtesy, Atlantic City Electric Company

Ides of March—1958

Neither rain nor sleet nor snow can interrupt that vital flow—not even a late season blizzard such as played havoc with eastern seaboard utilities last March.

Public Utilities
FORTNIGHTLY

VOLUME 62 NOVEMBER 6, 1958 NUMBER 10

Some New Facts and Ideas on Utility Financing

By FERGUS J McDIARMID*

A penetrating study of "operating public utility bonds." Their past history of performance. Their declining popularity. How they can be tailored to the financing needs of their best market. Their relation to preservation of values.

When writing an article which may be read by busy people, it seems only fair to summarize in advance the contents thereof. This gives the reader a chance to cease and desist at the outset or to go ahead at his own risk. The material in this article may be summarized as follows:

1. Operating public utility bonds other than those of street railways have in this century achieved an almost perfect record of paying the promised number of dollars on time. Some new information is presented which proves this to be a fact.

2. It is both ironical and frustrating that this information should become available at a time when bonds as a class are losing favor as a medium for preserving the real values created by savings while common stocks seem to be in an ascendancy.

3. Public utilities should tailor their bond financing to meet the requirements of the institutional bond market which remains to them. In view of the default-free record of their bonds, certain standardized ideas on capital structures and bond

*Vice president in charge of investments, The Lincoln National Life Insurance Company, Fort Wayne, Indiana. For additional personal note, see "Pages with the Editors."

forms may well be subject to re-examination.

4. I end with a little essay on the nature of savings and what is required of public utility securities in order that they may preserve and perpetuate the real values created by savings.

Default Record of Public Utility Bonds

THE record of the bonds of operating public utilities other than street railways over the past fifty-eight years in paying the promised number of dollars on time has been close to perfect. While one might have suspected something of this sort, it was made a matter of established record by a newly published study, "Corporate Bond Quality and Investor Experience," which was prepared under the auspices of the National Bureau of Economic Research and published by Princeton University Press. This study was financed by leading institutional investor groups including life insurance companies and banks.

The writer was a member of the committee which got the study under way back in 1946.

This bond analysis covered all large corporate bond issues ($5 million and over) sold in the years 1900 to 1943, inclusive, on which information was available, and it also included a 7 per cent sampling of bond issues under $5 million. Altogether, 7,488 issues totaling over $56 billion were included and the experience on these issues was carried up to January 1, 1944. It provided a very good test of bond results since it covered a long period which included economic fluctuations of the severest kind, including wars and depressions.

OF the bonds thus analyzed, public utility bonds composed the largest single group, and the public utility bonds included totaled about $24 billion, an amount not greatly less in dollars than the total of all public utility bonds now outstanding. In terms of purchasing power at time of issue, the value of these bonds no doubt exceeded the purchasing power of all presently outstanding public utility bonds. While this study ended with the year 1943, the experience since that time has done nothing to disturb the conclusions which may be drawn from it. In the subsequent years utility bonds have had a virtually defaultless record, and corporate bonds in general have been largely free from default. The real testing period for such bonds was prior to 1943.

Compared with corporate bonds in general the showing of public utility bonds has been spectacularly good. This is proved by the data in Table I, page 731. This table shows that in the case of large offerings of utility bonds ($5 million and over), excluding street railway bonds, if interest was covered at least two times at the time of issuance, then there were no defaults whatsoever. A like experience was revealed on the sampling of small utility issues. Even when the earnings coverage dropped to 1½ times interest, the default experience was nominal. It was only when earnings failed to provide even minimum coverage for interest that the default experience became heavy. This bad experience, no doubt, applied mainly to holding company bonds sold in the period of frenzied finance during the 1920's.

IT is quite evident from this experience that public utility bonds, excluding those of street railways, which had any

proved record of earnings protection at the time of offering, have had a well-nigh perfect record for nearly sixty years. This should include the bonds of practically all operating utilities other than new construction projects. As compared with industrial bonds and railroad bonds, utility bonds have, therefore, been in a class by themselves as far as freedom from default is concerned.

THIS pioneering corporate bond study revealed some other interesting facts. In the case of utilities, size of company was not a significant factor in determining the credit record. Small companies performed as well as large ones, provided minimum earnings coverage was available at the time bonds were issued. This was not true in the case of industrial companies where mere size was an important factor in the credit record. Industrial companies with assets of $200 million or over had only 3.4 per cent of their bonds default, but where assets were under $5 million, 38 per cent of bonds defaulted.

In the case of public utility bonds as a whole, including those which defaulted, the overall yield realized was in excess of the promised contractual yield. This was true even if street railway bonds, which had a very bad record, are included with other utility bonds. In other words, the premiums paid on call of bonds were more than sufficient to offset any losses sustained. This was also true of industrial bonds, but not of railroad bonds. The very interesting facts in this regard are presented in Table II (page 735).

Some Conclusions

THERE are, I believe, a number of quite significant conclusions which may be drawn from the results of this study and subsequent experience. I list them as follows:

1. I HAVE long suspected that any risk in public utility bonds is industrywide in nature rather than an individual company risk. This study points in that direction. The bonds of one segment of the utility industry, the street railways, had a very bad record, with nearly two-thirds of them defaulting and they defaulted regardless of their earnings protection at time of issue. They were victims of functional obsolescence. However, the bonds of the other segments of the industry, including electric, gas, telephone, and water, had a practically perfect record, provided that some minimum degree of earnings protection existed at the time of issue.

TABLE I

PROPORTION OF LARGE OFFERINGS ($5 MILLION AND OVER) DEFAULTING 1900-43, INCLUSIVE

Times Fixed Charges Earned at Time of Offering	*All Industries*	*Railroads*	*Utilities Ex. Str. Rys.*	*Street Railways*	*Industrials*
3.0 and over	2.1%	5.5%	.0%	38.6%	4.0%
2.0—2.9	4.0	15.1	.0	5.9	7.4
1.5—1.9	17.9	28.0	.4	84.8	16.5
1.0—1.4	34.1	49.9	4.1	49.0	16.0
Under 1	35.0	55.2	38.4	65.6	9.7
Information Lacking	19.7	18.7	12.7	66.0	23.2
All Offerings	17.3	28.1	6.3	64.3	14.8

Source: "Corporate Bond Quality and Investor Experience," page 413.

Functional obsolescence is very unlikely to affect some electric and telephone companies and not others. There is no available evidence in the record to suggest that one electric or telephone bond carries materially more risk than another providing that reasonable earnings support exists, the territory has some diversification, and is not subject to blowing away. Few territories lack these qualifications. Gas bonds, depending upon a depleting resource, may be in a little different position. In the event natural gas were to become seriously depleted, no doubt a remote risk at present, the companies with the most assured supplies would suffer last.

2. THIS record of operating utility bonds, other than street railway issues, has been equaled only by government bonds and tends to place these bonds in a unique class among corporate bonds. This record, plus the probable nature of any risk in such bonds, tends to make the process of rating them by quality within a segment of the industry to be a not very meaningful business. As a colored gentleman in our town, who is somewhat of a philanderer, said about his numerous girl friends, "Some may be better than others, but they's all good."

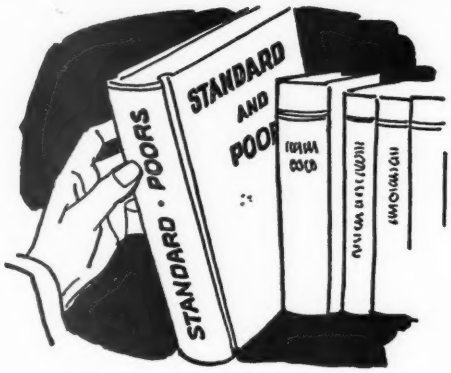
3. THERE is little factual basis to be found in the past record for substantial differences in interest rates among bonds in a given segment of the utility industry. There is no good reason, for example, on the basis of this record, except in unusual instances, why one electric bond should yield much more than another, providing that technical factors, such as time of maturity, call protection, etc., are comparable.

4. THE very favorable record of public utility bonds does not necessarily indicate that such bonds are a satisfactory medium for preserving the real values created by savings. It simply indicates that the promised number of dollars will probably be paid on time in the future. The great element of risk, which is decline in the value of the dollar, remains; and this risk factor totally overshadows and renders insignificant the risk of failure to pay dollars as promised.

Declining Popularity of Bonds

IN any former generation during the past 125 years, which is about the life span of the history of corporation finance in this country, this practically default-proof record of the bonds of operating public utilities would have classed them as a most excellent medium for the preservation of the real values created by savings. This unfortunately is not true today. For these bonds are no better than the dollars in which they are payable, just as a chain is no stronger than its weakest link. The so-called gilt-edged bond, which in generations past has represented all that was safe and sure as a medium for preserving savings, no longer occupies that position in the minds of investors who have freedom of choice.

What is going on in the minds of such investors is pretty clearly indicated by certain trends in the financial markets during the past year and particularly during the past few months. In spite of a rather sharp decline in business activity and in corporate profits, and a quite indifferent outlook for the latter in the months ahead, the stock market has shown remarkable strength. It has regained most of its losses of last summer and fall. Common stocks



Utilities Have Good Bond Credit Records

IN the case of utilities, the size of company is not a significant factor in determining the credit record. Small companies have performed as well as large ones, provided minimum earnings coverage was available at the time bonds were issued. This was not true in the case of industrial companies where mere size was an important factor in the credit record. Industrial companies with assets of $200 million or over had only 3.4 per cent of their bonds default, but where assets were under $5 million, 38 per cent of bonds defaulted.

are selling at very high historic levels in relation to current earnings. The great success which attended the offering of the shares of two new closed-end investment trusts shows just how popular common stocks have become with the investing public.

The bond market, on the other hand, has been sluggish at best, chaotic at worst. In spite of repeated actions by the Federal Reserve in lowering its rediscount rate, the yields on high-grade bonds have failed to respond downward and are much higher than one was inclined to predict six months ago. At the present time, financial institutions, which are prepared to exercise a little ingenuity and judgment and take a little risk, have no trouble in keeping fully invested in bonds at interest rates which are substantially higher than the yields obtainable from buying a cross section of good stocks, even if public utility stocks be included in generous measure.

There is considerable evidence to indicate that the market for long-term and intermediate-term U. S. Treasury bonds has become, to a marked extent, a playing field for speculators. This is indicated by the recent sharp market fluctuations in these bonds which used to be quite stable marketwise. Quite a number of speculators have recently departed this playing field in a badly bruised condition. The demand for such bonds on the part of permanent investors who plan to keep them seems to be very limited.

Government Debt Refinancing

THE interest rate required to refinance a substantial part of the federal gov-

ernment debt on a long-term basis and place it in the hands of permanent investors is probably considerably higher than the Treasury wishes to face. Some light is thrown on what this interest rate might be, by recent experience in Canada. Canada recently refinanced between $6 and $7 billion of her federal government debt, or about 45 per cent of the total on a long-term basis. The bonds refinanced were largely 3 per cent bonds sold during World War II. The new refunding bonds consisted of seven-year, 3¾'s; 15-year, 4¼'s; and 25-year, 4½'s, with emphasis on the latter. A cash bonus was paid to holders who exchanged bonds. This Canadian operation, which greatly extended the maturities of the national debt and improved the cash position of the government, obviously took a good deal of courage and imagination on the part of the financial authorities there.

An equivalent operation in this country would mean the refinancing of over $100 billion of bonds. Interest rates in Canada in the past have tended to be higher than here. On the other hand, the financial policy of the Canadian government in recent years has tended to inspire more confidence than that of our own government. The debt of the former has been substantially reduced in a period in which our federal government debt has been increasing.

TAKING all of these factors into account, it is doubtful that our government could sell a really huge quantity of long-term bonds sufficient to finance this year's estimated $12 billion deficit at a rate under 4¼ per cent, and the rate might well be higher. One might hope that such a rate would be sufficient to offset the loss in the value of principal due to further decline in the purchasing power of the dollar and to provide the holder with a small net return provided that he was of a type on whom the tax bite also was quite small.

According to the Consumers Price Index of the Department of Labor, dollar purchasing power has declined about 3 per cent during the past year and it declined on average at the rate of 4¼ per cent per annum compounded during the past seventeen years. Of course, the issuance in large quantities of a 4¼ per cent long-term Treasury bond would have a sharp impact on the cost of corporate financing.

THE present situation in the money market highlights the relative popularity of stocks and the relative unpopularity of bonds. The so-called gilt-edged bond which not long ago represented all that was safe and secure and desirable in the minds of individual investors has been pretty well dethroned. In this respect, the wheel has gone full cycle during the last twenty years, or in less than a generation. People now feel that they should seek security in common stocks and are willing to pay fancy prices to do so. Maybe they will be burned, but their present thinking is obvious. For this, inflation both past and expected is probably largely to blame. The dollar has lost over half of its value since 1940; and with a huge federal government deficit in prospect, the belief is becoming increasingly more widespread that we shall have more of the same.

The Changing Market for Utility Bonds

IN an article published in the FORTNIGHTLY in 1957, I devoted considerable attention to the changed nature of the market for public utility bonds. I pointed out that this market now lies almost en-

tirely with financial institutions, which, because of the fixed dollar nature of their liabilities and the laws under which they operate, must invest very largely in contractual fixed-dollar media such as bonds and mortgages. This market is, therefore, very largely in the nature of a captive market. There is reason to believe that the size of this market is rather static and may even be tending to decline in overall size.

IN the years leading up to 1950, life insurance companies were the important market for public utility bonds, and these companies still own nearly half of the total outstanding debt of the industry. However, since that time, life insurance funds have flowed to an increasing extent to industrial bonds and real estate mortgages; and their purchases of public utility bonds have been declining. They have, however, continued to purchase natural gas bonds on a substantial scale because of the higher yields obtainable and also because these are the only types of public utility bonds which offer substantial amortization.

In Table III (page 739) the amount of utility bonds purchased by life insurance companies, representing 77 per cent of the assets of the industry, is shown. It will be noted that in 1956 their purchases of these bonds other than gas bonds were quite small and all of their utility bond purchases were a mere fraction of their purchases of industrial bonds. In 1956, these life insurance companies bought more bonds of finance companies than all utility bonds combined.

TODAY the principal market for utility bonds other than those of the natural gas industry appears to be the pension funds and particularly the public employees' pension funds. The private pension funds are buying common stocks on an increasing scale, and such stocks are now the most rapidly growing part of their assets. The public pension funds, on the other hand, are on the whole severely restricted as to what they may purchase; and based on such information as is available, they have become the most important remaining market for publicly offered utility bonds sold through competitive bidding.

There may be other reasons for the present very unusual relationship between stocks and bonds, but the above seems to be the most obvious one. Also to be taken into account is the more or less automatic buying of stocks by pension funds and investment trusts. This is a relatively new thing in the stock market, and we are hardly yet in a position to accurately weigh its influence. Last year private pension funds added nearly $1 billion of common stocks

TABLE II

OVERALL DEFAULT AND YIELD RESULTS, 1900-43, INCLUSIVE

	Default Rate	*Promised Yield*	*Realized Yield*	*Loss Rate*
Railroad Bonds	28.1%	5.5%	5.2%	.3%
Public Utility Bonds*	10.6	5.0	5.4	—.4
Industrial Bonds	14.8	5.4	5.8	—.3
All Bonds	17.3	5.3	5.4	—.1

*Includes street railway bonds.
Source: "Corporate Bond Quality and Investor Experience," page 10.

to their holdings. Stocks, therefore, have also acquired a captive market of sorts although they are not nearly so dependent upon it as are bonds.

Suggested Changes in Utility Financing

As long as the utilities continue to have a captive market for their bonds, they might as well use it to the maximum extent possible. How long they will have this market I would not want to hazard a guess. Also, it would be the part of wisdom to cater to the tastes and requirements of this market as fully as possible. It will have been noted that the electric, telephone, and water utilities have, to a large extent, lost the life insurance companies as a market for their bonds, except for limited periods such as in 1957 when interest rates on such bonds were quite high.

There are reasons for the loss of this market. For one thing, a 30-year corporate bond without amortization during its life, which is true of most utility bonds other than those of the gas industry, leaves much to be desired. There is no sinking fund to support the price of the bond in the market place. The very permanence of the debt exposes the bondholder to the full risk of functional obsolescence in the industry, which in the case of utilities appears to be the principal risk. The story of the railroads provides a most impressive argument against lack of amortization in corporate debt.

Also, nearly all of these 30-year utility bonds sold through competitive bidding have only a minimum amount of call protection. Such very inadequate call protection seems to be largely the fault of regulatory commissions which take the view that institutional investors are fair game for any one-sided deal which may be imposed upon them.

The practically default-proof record of operating utility bonds over the past sixty years suggests some changes in capital structures. At the present time, there is a tendency to standardize these in a way which seems unduly restrictive. The prevailing pattern seems to aim at a capital structure which is about 50 per cent debt, 15 per cent preferred stock, and 35 per cent common stock or some very modest variations from these ratios. The reasons for such a financial strait jacket at the present time are not too apparent. It had its origin in the depression years when the overwhelming emphasis was on security of bond principal and interest. Also, the alleged importance of bond ratings and their influence on interest rates to be paid by the borrower have served to perpetuate the pattern.

Several factors tend to encourage a reconsideration of the validity of such capitalization ratios. First of all is the demonstrated stability of public utility earnings in the face of substantial fluctuations in business activity. One has only to look at tabulations of corporate earnings which compare this year's earnings with those of last year. The utilities can be picked out without any reference to corporate names. They are the companies whose current earnings show little change from a year ago and the change, if there is one, is usually on the upside. This is at a time when other types of corporations are showing sharp declines in earnings which sometimes almost amount to a wiping out of such earnings.

These capitalization ratios are also based on original cost of property. When fair

Changes in Public Utility Bond Buying

"IN the years leading up to 1950, life insurance companies were the important market for public utility bonds, and these companies still own nearly half of the total outstanding debt of the industry. However, since that time, life insurance funds have flowed to an increasing extent to industrial bonds and real estate mortgages; and their purchases of public utility bonds have been declining. They have, however, continued to purchase natural gas bonds on a substantial scale because of the higher yields obtainable and also because these are the only types of public utility bonds which offer substantial amortization."

value, giving weight to reproduction cost, is the basis of rate making as is becoming increasingly the case, then a 35 per cent common stock ratio on the books may be a great understatement of the real common stock equity on a fair value basis.

PREFERRED stocks as a method of financing have declined in investor favor. They no longer have much appeal to the individual investor who is looking for either tax exemption or capital appreciation. They have a very limited appeal to institutional investors who can now obtain a reasonably good return on bonds and mortgages. Probably their strongest appeal is to those financial institutions which benefit from partial tax exemption on preferred dividends, but these do not provide a very broad market.

All of these factors, which include the default-proof record of public utility bonds, even when the coverage of interest at the time of issue was not strong, suggest that the debt ratio of many utilities could be safely increased. This could probably be done to the extent of taking care of all or part of financing requirements now met by preferred stock.

For example, a debt ratio for an electric company of between 60 per cent and 65 per cent of book capitalization should not be disturbing provided that individual bond issues comprising this debt were subject to amortization at a rate of not less than 2 per cent a year and, if possible,

more rapidly. At least one major electric utility is already arranging its financing on this basis. Such amortization would offset in the minds of investors any minor degree of extra risk created by the higher debt ratio. It would also attract investors now discouraged by the lack of amortization in most utility bonds.

A debt ratio in the proposed range would, of course, leave little room in the picture for preferred stock. This would not be considered a cause for mourning by some former buyers of that type of security.

Revenue Bond Financing

THE approaches to bond financing on the part of investor-owned utilities and those of many publicly owned utility operations are frequently in sharp contrast. On numerous occasions public authorities have purchased the property of private utilities at prices often much in excess of book value and proceeded to finance the entire acquisition cost through the sale of revenue bonds. Also, a substantial number of major power projects have been built, some of them of very large size, and their entire cost, including a substantial amount of interest during construction, has been financed through the sale of revenue bonds. The sale of these bonds is frequently made possible by the pledge of long-term power-purchase contracts with private utilities. While these purchase contracts do not add directly to the debt of the private companies involved, they do impose on them an additional fixed charge which is somewhat in the nature of an interest charge.

Such revenue bonds do, of course, enjoy a sales advantage due to the tax exemption which their interest enjoys. However, they are supported only by earnings and if investors considered that they contained a substantial degree of risk, they would not be salable. To a large extent they are purchased by the same institutional investors who buy the bonds of investor-owned utilities. Such revenue bond issues are set up on an amortized basis and they usually contain much more effective protection against an early call than do the bonds of investor-owned utilities, particularly when the latter are sold through competitive bidding.

I DO not suggest that such revenue bond financing provides any model for bond financing on the part of investor-owned utilities, which must provide part of their capital through the sale of bonds and part through equities. I merely point out that the wide differences of approach which prevail in the two areas of what are fundamentally the same type of business tend to make one question any narrow and doctrinaire set of rules regarding capitalization ratios for public utilities.

Should the additional bond financing take the form of debentures or additional mortgage bonds? In my opinion, it does not matter much. After all, any type of debt involves some solvency risk. There probably is not much objection to having the entire debt in a single layer provided the elements in that layer are amortized. However, in deference to tradition and to appeal to different types of markets, there may be some advantages for the time being of having the additional debt in the form of debentures.

About Savings

SAVINGS, it has been said, are one of the things in the world which cannot be

saved. This seeming paradox results from the fact that savings represent the difference between two continuous processes, production and consumption. Savings, therefore, are dynamic rather than static in nature, like electricity or the flow of a running stream. The energy generated by the savings process can only be preserved by transforming it into some other medium, just as electricity may be stored by converting it into a chemical charge in a storage battery or the energy in a stream flow by backing up water behind a dam. The efficiencies of storage batteries vary, and some of the latent energy in a water reservoir is lost through evaporation and seepage. Likewise, there is no perfect medium for preserving the energy resulting from the savings process. The most commonly used media are bank deposits, bonds, preferred and common stocks, and the ownership of real property.

THE savings stream is the lifeblood of our economy. Without it, this economy would wither and die, and no segment thereof depends more heavily and continuously on savings than the public utilities. In order that savings may be encouraged to continue at a high level, reasonably satisfactory media for preserving the values created thereby must be available. Without such media, the self-denial which produces savings, and which in our kind of society is a voluntary kind of thing, will tend to decline greatly. This has already happened, to an important extent, to some countries of the world, such as France and to a lesser extent Great Britain, which were formerly very important sources of savings. The same tendency may very well be under way here. We may, therefore, ask ourselves how satisfactory a medium for preserving the real value created by savings is offered by the public utilities of this country.

PUBLIC utility bonds can only be a satisfactory medium for the preservation of such values if the interest rates thereon are sufficient to offset the current rate of principal loss through inflation, to pay taxes levied on that interest, and to provide some real net return, however small. Such reasoning is just simple arithmetic. By and large, over the past twenty years, however, public utility bonds have failed to do this, often by quite wide margins.

This is clearly shown by the data in Table IV (page 740). This table illustrates

TABLE III

CORPORATE BONDS PURCHASED BY 67 LIFE INSURANCE COMPANIES HAVING 77 PER CENT OF THE ASSETS OF THE INDUSTRY*

(Million $)

	1953	*1954*	*1955*	*1956*
Public Utility				
Electric	552	341	101	61
Gas	383	365	288	278
Water	29	31	21	32
Telephone	175	57	59	56
Other	6	9	14	2
	1,146	803	483	429
Industrial & Misc.	2,777	2,624	2,679	3,391
Total	3,923	3,427	3,162	3,820

*Life Insurance Association of America.

the effect of the loss in dollar value on the rate of return received by holders of electric utility bonds and preferred stocks. The effects were quite devastating. The data indicate that the real return on electric utility bonds over the 17-year period from 1941 to 1957 was negative on average. The real rate of return on electric utility preferred stocks in that period was very small. These returns are considered before income taxes and before any allowance for the decline in market values due to rising interest rates. If these two items were taken into account, the results would be still more dismal.

OVER the eight years of severe wartime and immediate postwar inflation, when the dollar was losing value at an average rate of about 6½ per cent a year, the real average return on these securities was heavily negative to the extent of 3.2 per cent on bonds and 1.1 per cent on preferred stocks. During the later period of milder inflation from 1949 to 1957, inclusive, when the dollar was losing value at an average rate of 1.7 per cent a year, small net returns were earned on average on these securities before allowance for income taxes and decline in market prices.

Over the entire 17-year period the capital supplied by the purchasers of these senior securities, and this represents the great bulk of the capital coming into the industry, was being progressively confiscated for the benefit largely of electric ratepayers. This was the real meaning of what was taking place. This capital contributed by the senior security holders was working over this period for no real return at all. That is one reason why electric rates did not have to be raised more dur-

TABLE IV

RETURNS ON ELECTRIC UTILITY BONDS AND PREFERRED STOCKS ADJUSTED FOR LOSS IN DOLLAR VALUE

	(1) Purchasing Power Of Dollar	Ann. Loss (—) Or Gain (+) In $ Value	Average Rate on Borrowed Money		Average Preferred Stock Div. Rate	
			Rate Paid	Rate Adj. For $ Loss	Rate Paid	Rate Adj. For $ Loss
1940	166.9		(2)		(2)	
1941	159.0	— 4.7%	3.6%	—1.1%	6.1%	1.4%
1942	143.5	— 9.7	3.5	—6.2	6.1	—3.6
1943	135.1	— 5.9	3.6	—2.3	5.8	— .1
1944	133.0	— 1.6	3.5	1.9	5.5	3.9
1945	130.0	— 2.2	3.3	1.1	5.3	3.1
1946	119.9	— 7.8	3.1	—4.7	5.1	—2.7
1947	104.7	—12.7	3.0	—9.7	4.6	—8.1
1948	97.3	— 7.1	3.0	—4.1	4.5	—2.6
1949	98.2	+ .9	3.0	3.9	4.5	5.4
1950	97.3	— .9	2.9	2.0	4.3	3.4
1951	90.1	— 7.4	2.9	—4.5	4.3	—3.1
1952	88.1	— 2.2	3.0	.8	4.5	2.3
1953	87.4	— .8	3.1	2.3	4.6	3.8
1954	87.1	— .3	3.0	2.7	4.4	4.1
1955	87.3	+ .2	3.1	3.3	4.5	4.7
1956	86.1	— 1.4	3.1	1.7	4.3	2.9
1957	83.2	— 3.4	3.1	— .3	4.5	1.1
Averages						
1941–48		— 6.5	3.3	—3.2	5.4	—1.1
1949–57		— 1.7	3.0	1.3	4.4	2.7
1941–57		— 3.9	3.2	— .7	4.9	1.0

(1) Based on Consumers Price Index of U. S. Department of Labor 1947-49=100.
(2) Moody's Public Utility Manual.

ing this inflationary period. To provide these senior security holders with a reasonable return on their investment after allowing for shrinkage in the real value of their principal would have required considerably higher electric rates.

It should be very obvious that this sort of thing cannot go on indefinitely. If it does tend to continue, intelligent people will cease to entrust their savings to institutions which invest them in this way. Either we are going to have to have the assurance of a stable dollar, which does not appear to be very widely expected at present, or interest rates are going to have to be high enough to absorb dollar shrinkage, pay income taxes, and still leave the investor some reasonable return. The alternative is for savings to desert these so-called investment channels and seek employment elsewhere. We may even reach the point where interest and principal payments will have to be geared to some price level index to assure the payment of enough dollars to offset all or a large part of the loss in dollar value. This has already taken place in Finland.

Current Investment Thinking

An indication of the type of thinking now going on in investment circles were some recent expressions to the writer by a well-known financial adviser of one of the largest of the corporate pension funds, a gentleman who is also manager of a large investment trust. He told the writer that private pension funds are now buying all the common stocks they dare, considering the level of the stock market. They buy bonds reluctantly and as a kind of necessary evil. In view of the decline in dollar value, they view present bond yields as fictitious. They feel it is their function to invest their funds so as to provide a standard of living for their pensioners rather than a fixed number of dollars.

The recent sharp resurgence of interest rates well in advance of any substantial business recovery, and the booming stock market, which at the time of writing is at an all-time high, are significant. Inflation has again emerged as the great economic problem of our era, if indeed there was any temporary doubt. The recent increase in rediscount rates by the Federal Reserve authorities gives recognition to this state of affairs.

With respect to public utility common stocks, regulation remains a key factor, probably the most important single factor, in view of inflationary trends. Slavish and doctrinaire adherence to original cost as the only basis for rate base determination tends to undermine the status of utility equities as a medium for preserving real savings values just as inflation tends to undermine the value of bonds and preferred stocks. Such an attitude tends to make of such common stocks a type of junior preferred stock. A realistic approach requires that substantial and perhaps dominant weight be given to reproduction cost, if the utilities are to continue to attract their future equity capital requirements on a basis which competes with other types of equities and which does not dilute the real interest of present stockholders. That may be old stuff but it is pretty fundamental, and to the inflation-conscious equity buyer of today is self-evident.

Utility Executives' Compensation

By LAWRENCE S. MUNSON*

A revealing survey of top-management compensation in which comparisons are made between the financial rewards given utility executives with those of industrial company key personnel.

THE compensation of public utility executives in 1957 was less affected by the recession than was the general experience in all industries. The average compensation of chief executives—including salary, bonus, and deferred compensation—was up 2.2 per cent in 1957 for public utilities, compared to an average increase of 1 per cent for all industry. These figures are based on an annual survey of top-management compensation made by McKinsey & Company, Inc., management consultants.[1] The survey included 642 companies and 18 different industries. Public utilities were represented by 34 different operating companies.

Chief Executive Compensation

OVER the past two years, the utility industry has shown higher rates of increase in chief executive pay than industry generally. The median percentage compensation increases were as follows:

	Median Percentage Increase in Compensation	
	1956	*1957*
All industries	5.1	1.0
Utility industry	6.9	2.2

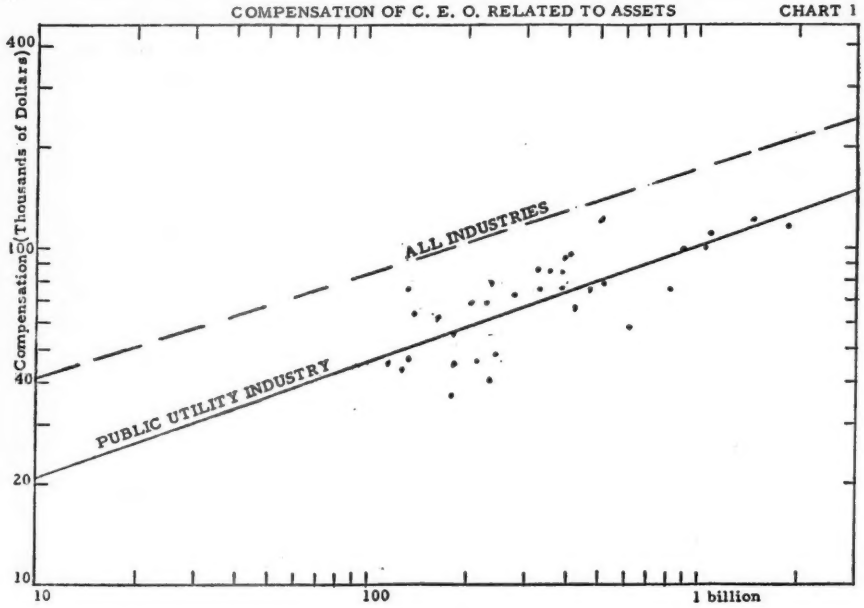
Despite this trend, the industry still lags behind the general experience. Chart 1, page 743, plots the total compensation of highest paid executives with total assets of their companies. Thus, each utility company surveyed appears as a dot on the chart. A line of best fit is calculated and drawn through the dots. Superimposed on the chart for comparison is a dotted line representing the corresponding line of best fit for all industries included in the survey.

IT is apparent from Chart 1 that utility companies do not pay their chief executives as much on the average as companies of comparable size, in terms of total assets. In making this comparison, however, it must be recognized that different indus-

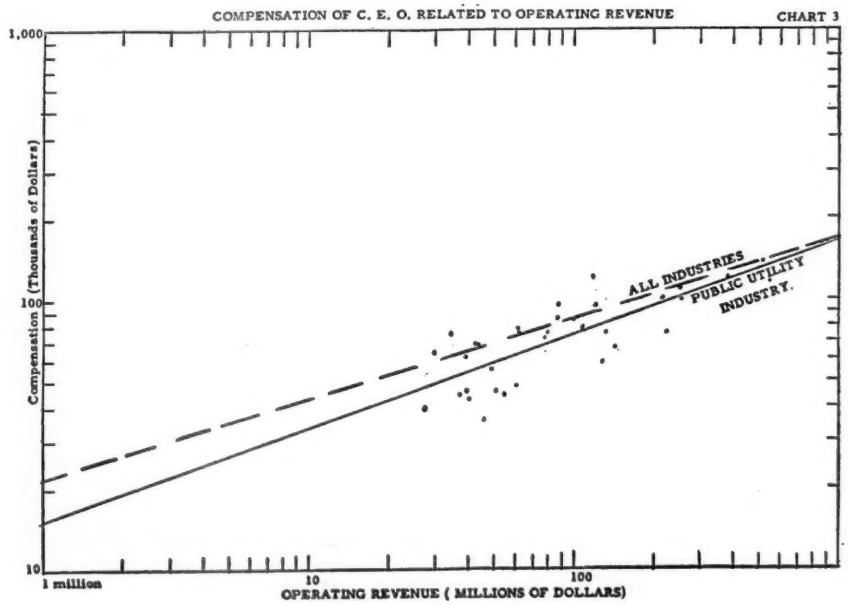
*Staff member, McKinsey & Company, Inc. New York, New York. For additional personal note, see "Pages with the Editors."

[1] "Annual Report on Executive Compensation," by Arch Patton, *Harvard Business Review*, September-October, 1958.

COMPENSATION OF C. E. O. RELATED TO ASSETS CHART 1



COMPENSATION OF C. E. O. RELATED TO OPERATING REVENUE CHART 3



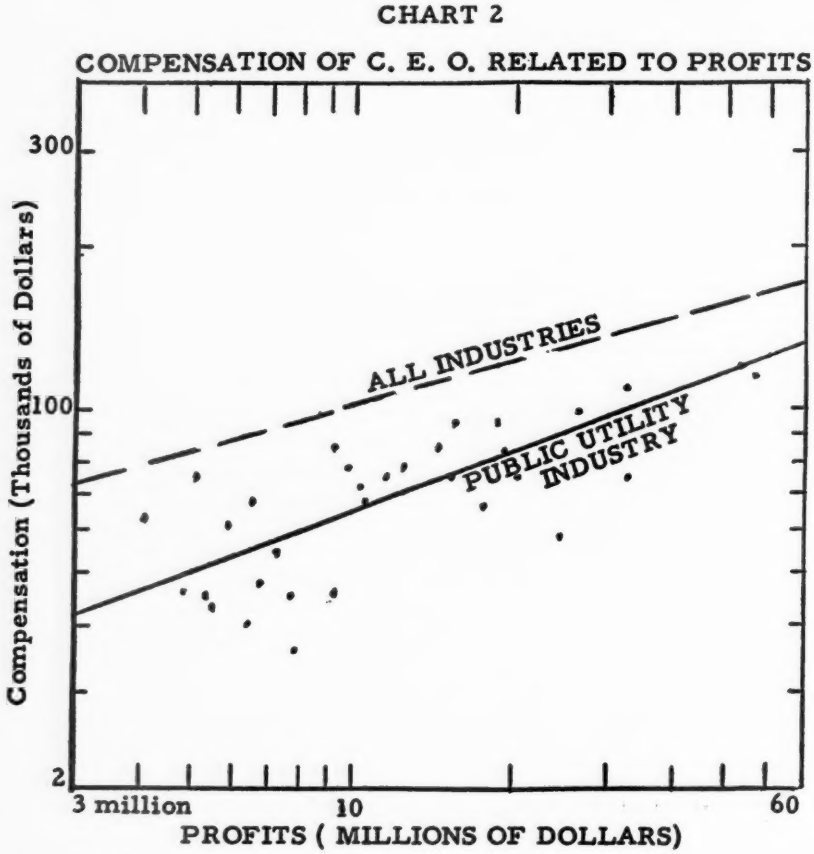
tries have different traditions and different compensation practices.

CHART 2 sets forth a similar analysis, but substitutes profits for total assets in the analysis. In terms of profits, the chief executives of utility companies still receive less total compensation than their counterparts in other industries. It is noteworthy, however, that this disparity tends to narrow in the case of companies with higher profits.

Chart 3, page 743, shows that the compensation of chief executives in the utility industry compares more favorably to companies of equivalent size measured in terms of sales volume.

INDEED, the "line of best fit" for utilities comes fairly close to that for all industries. This reflects the fact that changes in top-management compensation generally follow trends in profits rather than sales. Sales were typically up, and profits down for the companies surveyed in 1957; but both were up for utilities.

CHART 2



UTILITY EXECUTIVES' COMPENSATION

	Average Percentage Increase over 1956		
	Chief Executive Compensation	*Net Sales*	*Net Profits*
All industries	1.0	5.3	(3.2)
Public utilities ...	2.2	7.3	4.9

Other Top Positions

THE compensation of the second, third, and fourth highest paid executives in the public utility industry continues to lag further behind the top man than is the case in the other industries surveyed:

	Compensation Expressed as Percentage of Chief Executive's	
	All Industries	*Public Utilities*
Second highest paid executive	69	63
Third highest paid executive	57	49
Fourth highest paid executive	52	45

Fringe Benefits

EVERY one of the 34 utility companies in the survey had a pension plan, but other "fringe benefits" were not frequently found. Six had some form of consultative contract with top executives. Only five companies—or 14.7 per cent of the utility companies—had stock purchase plans; compared to 59.2 per cent for all companies in the survey. Only a single utility company reported a deferred contingent compensation arrangement. None of the utility companies had a profit-sharing trust plan.

Comparison to Hourly Wage Earners

AN interesting contrast to this relatively unfavorable showing of utility executives is provided by published data on wage earners. Bureau of Labor Statistics data on the annual gross earnings of production and other nonsupervisory workers in the same industries covered in the McKinsey survey show that utility workers fare somewhat better than average:

	Average Annual Earnings
Average for all industries	$4,445
Public utilities (sixth highest)	4,912

Does Congress Represent the Public at Large?

"WHAT this Congress revealed to the people—and we are speaking of Congress in general, not of wise and sometimes brave individuals who are members of it—is that any Congress seems no longer to be representative of the people who elect it. It is the creature of pressure groups and the victim of its fears. In justice it should be said that the 85th Congress was a little worse than other recent ones only because there were more pressures and more frights. When it is pressed and frightened a Congress listens neither to the people nor to its sage members; it spends and spends and spends.

"Toward the end of the session some sanity seemed to return. But closer inspection usually showed that it was not the sanity of the majority but of a handful of hard-nosed members, usually of key committees, who fought holding actions against a few of the more extravagant proposals—the dreadful housing bill, for instance. Even so, the two houses wastefully appropriated or authorized the spending of enough of the taxpayers' money in the last couple of weeks to warrant a season of national mourning."

—EDITORIAL STATEMENT,
Los Angeles Times.

The Transit Coupon-redemption Plan

By WILLIAM J. McKENNA*

Will the "transit coupon-redemption plan" now operating in New York and Philadelphia spread across the nation and revive commuter interest in mass transit? What other benefits may accrue to transit companies through its judicious use?

On July 1, 1958, the New York City Transit Authority embarked upon an experiment of great significance to the urban transit industry throughout the United States. On that date the authority introduced the coupon-redemption plan on all its buses and subways.

The proposed plan is a very simple one. It involves an arrangement with the B. T. Babbitt Corporation in which the company issues one coupon with each of five separate household products selling under the trade name of Bab-O, Glim, Cameo Copper Cleaner, Hep Oven Cleaner, and Air Gene. Under the slogan of "buy three—ride free" the New York Transit Authority has high hopes that the coupon-redemption plan will help to win back riders to public transit, and thus increase overall transit revenue.

This plan was characterized by Charles L. Patterson, the chairman of the New York Transit Authority, as

> . . . a practical gesture on the part of civic-minded businessmen. They are contributing their talents to help build up this vital service and make it more attractive to the public. We are happy to participate in this campaign. I hope it will encourage other businesses to do likewise.

In order to assure the success of the coupon-redemption plan the B. T. Babbitt Corporation is prepared to spend $1 million in newspaper, radio-television advertising, and store promotion. It planned an initial distribution of seven million cans of

*Assistant professor of economics, Temple University, Philadelphia, Pennsylvania. For additional personal note, see "Pages with the Editors."

its household products to 16,000 stores in the metropolitan New York area.

A SIMILAR plan was also put into effect in Philadelphia on September 22, 1958. In Philadelphia the Hudson Pulp & Paper Corporation joined with the Babbitt company as sponsors of the plan. The Babbitt company will distribute in the Philadelphia metropolitan area the same five products that are sold in the New York area. The Hudson company will redeem coupons on its tissue, paper towels, and paper napkins. The Philadelphia plan involves a coupon-redemption rate of four coupons for one Philadelphia Transportation Company token under the slogan of "Ride free on PTC." Douglas Pratt, president of the PTC, has described the coupon-redemption plan

> . . . as something new in the transit industry . . . an opportunity to demonstrate through this merchandising plan, the convenience, value, and vitality of public transportation.

The coupon-redemption plan of four coupons for one token will run on an experimental basis in Philadelphia from September 22 through December 22, 1958. Coupons, however, will be redeemed until March 15, 1959.

Origin of the Plan

THE coupon-redemption plan for the urban transit industry is the brain child of Marshall S. Lachner, the president of the B. T. Babbitt Corporation. Mr. Lachner has long been aware of the decline in the use of urban transit in New York city and throughout the United States. He believes that realization by the public of the convenience, economy, and safety of mass urban transit will cause a halt in the downward trend of that industry.

It was this conviction which led Mr. Lachner to propose his plan to the officials of the New York Transit Authority. He found a ready acceptance of his proposal. Mr. Lachner's interest is a mixture of altruism and self-interest. He believes that the plan

> . . . will win new friends for . . . Babbitt and Hudson products and for the transit system . . . the coupon plan is in tune with the best interests of the entire community, which will benefit from wider use of public transportation and consequent easing of strangulating traffic congestion.

Babbitt and Hudson officials estimate that over ten million product items will be labeled with free-ride coupons in stocking retail outlets in the Philadelphia metropolitan area. Promotion will be extensive in a joint all-out advertising campaign and the distribution of counter displays in more than 2,000 supermarkets, grocery stores, and retail outlets in the five-county Philadelphia area.

Evaluation of the Plan

THE adoption of the coupon-redemption plan by New York city and Philadelphia has aroused a wide interest in the press, the merchandising world, and the transit industry throughout the United States. The Pan-American Public Relations Company, a firm which has done much of the publicity for the plan, is of the opinion that this interest is

> . . . partly accounted for by the fact that private industry is expressing a responsibility toward the problems faced

by a public agency in mass transportation.

And this plan

. . . is not philanthropy but practical co-operation, which is bringing a return in good will as well as revenue.

Plans are being formulated to extend the coupon-redemption plan to many cities throughout the United States. Over forty cities have already shown interest in the possibilities offered by the Babbitt-Hudson coupon plan. Many other merchandising companies are prepared to adopt a similar plan if the present experiments in New York city and Philadelphia succeed.

Both the Babbitt and the Hudson companies are confident of the potential success of their novel plan. This confidence is predicated upon the basic assumption that new transit demand will be generated by it.

This prospect of new transit demand is really the crux of the coupon-redemption plan. This new demand could result from the following: (a) shift from the use of the automobile and (b) increased transit use by present riders.

IT should be borne in mind that a shift from the use of the automobile by the confirmed user is extremely difficult—for he used the automobile because of the convenience of door-to-door travel, mobility, comfort, and speed. Low transit rates do not cause him to change his mode of transportation. Transit companies have long tried to convince such automobile users that it is "work to drive," that "public transit is cheaper," and that "parking is difficult" with little success. The building of additional parking facilities in the cities has not aided the transit companies unless these parking facilities are feeders to the transit line. There is, however, the possibility that those who use automobile transportation primarily because of the cost of public transit may find it advantageous to return to public transit as a result of the coupon-redemption idea.

There is a distinct possibility that existing regular and irregular users of public transit will increase their use of public transit as a result of the plan. Many people operate on a strict transportation budget. The fact that coupon redemption offers them an opportunity to secure free coupons from commercial products may induce these riders to make additional transit trips rather than to reduce the actual money spent for transit fares. The irregular transit user may also use the coupons for additional trips.

Of course, if the present users of public transit merely use their coupons to save cash fare outlay without making any additional trips on public transit, this will not constitute a net increase of transit demand. It will be but a maintenance of demand—or a transfer of demand from cash to coupon fares.

A DIRECT consequence of the coupon-redemption plan and its attendant

¶ INCREASED good will generated by the coupon-redemption plan could have a long-run effect of reversing the downward trend in the use of public transit. This would help relieve traffic congestion. Also, the plan could increase use of transit facilities in nonpeak hours, which would help transit companies' operating revenues.

publicity may well be an increased public good will toward the transit companies, and a greater public understanding of the advantages of public transit. This increased good will may have a long-run effect which could lead to a reversal of the long downward trend in the use of public transit. This would be one of the most constructive developments in the field of public transit that has occurred for many years. A significant reversal of the shift from the use of public transit could result in an improvement of transit facilities, an increase in their comfort, safety, speed, and convenience. This in turn could lead to a reduction of traffic congestion that is a major problem of every major city today.

Another significant result may flow from the introduction of the coupon-redemption plan; that is, an increased use of transit facilities in nonpeak hours. The low nonpeak-hour use of transit facilities is one of the major problems facing the transit industry. Transit facilities must be maintained at nonpeak hours as a public service and as a means of contributing to total costs. Additional use of transit facilities in nonpeak hours by housewives and other shoppers would result in increasing revenue to transit companies. This nonpeak-hour use may be increased still further as additional companies adopt the plan.

Other Aspects of the Plan

As presently used in New York and Philadelphia the coupon-redemption plan is subjected to certain criticisms. These criticisms are not fatal to the plan, but they must be evaluated if the coupon-redemption plan is to have its maximum effect. These criticisms are:

1. Propriety of Plan: Public transit, whether municipally owned or privately owned and operated, is a legal monopoly. It is a questionable departure from the public utility concept to grant a single company, or two, the exclusive right to introduce a coupon-redemption plan in the transit industry. An editorial in *The New York Times* of June 5, 1958, raised the propriety question by observing that the coupon-redemption plan involving only the Babbitt company in New York was

> . . . a monopoly privilege. For six months Babbitt, and no other company, has an exclusive tie-in with the transit system.

The addition of the Hudson company to the Philadelphia Transportation Company's coupon-redemption plan does not vitiate the argument that a public utility —a legal monopoly representing all the public—has granted an exclusive contract for a fixed period. Even the extension of the coupon-redemption plan to a limited number of other companies does not justify an exclusive tie-in with public transit. This is a questionable practice that should not be pursued by any public utility.

The addition of a sufficient number of other merchandising companies to the coupon-redemption plan will, of course, overcome the criticism of lack or propriety of the plan. Transit companies will exercise sound judgment if they invite a wider participation by merchandising companies in the plan.

2. Public Inconvenience: The public inconvenience inherent in the coupon-redemption plan as now constituted is a serious weakness. The coupons are to be

Plan May Stimulate New Transit Demand

"THIS prospect of new transit demand is really the crux of the coupon-redemption plan. This new demand could result from the following: (a) shift from the use of the automobile and (b) increased transit use by present riders. . . . a shift from the use of the automobile by the confirmed user is extremely difficult —for he used the automobile because of the convenience of door-to-door travel, mobility, comfort, and speed. Low transit rates do not cause him to change his mode of transportation. . . . There is, however, the possibility that those who use automobile transportation primarily because of the cost of public transit may find it advantageous to return to public transit as a result of the coupon-redemption idea. . . . regular and irregular users of public transit will increase their use of public transit as a result of the plan."

redeemed by transit booth cashiers and bus operators. Again quoting from *The New York Times* editorial of June 5th on this point:

> While in some stations and at some points on the bus routes the barter arrangement may not cause delay or confusion, at busier places it certainly will, especially if there is a long line waiting —which is by no means unusual—and some housewife arrives with a batch of coupons to count.

The same confusion may certainly occur at peak-hour travel on the buses. Consequent delays will irritate the public and create ill will. This may result in loss of riders and thereby tend to defeat the principal purpose of the coupon-redemption plan; *i.e.*, to secure a net addition in riders.

THIS criticism of the coupon-redemption plan can be readily met by the adoption of a redemption plan by the merchandising companies that will involve a redemption of coupons by them for tokens from a stock which they purchase from the transit companies.

This redemption plan would also overcome the criticism that the present redemption plan as followed in New York and Philadelphia is really a redemption subsidy by the transit companies. This is especially true in view of the general practice followed by retail grocers in charging two cents (in addition to the redemption

value of the coupon) for every coupon handled as compensation for the administrative costs involved in the collection, tabulating, and invoicing of the coupons.

3. Labor Cost: Under the coupon-redemption plan it is the employees of the New York Transit Authority and the Philadelphia Transportation Company who are to exchange the coupons for tokens or cash fares. The transit employees will handle these coupons free of expense to the Babbitt and Hudson companies. Thus, in a sense, these transit employees will be working for these two commercial companies without any additional compensation. Michael J. Quill, president of the Transport Workers Union, and Matthew Guinan, secretary-treasurer of the same organization, expressed the opinion of responsible labor leaders as to the possibility of seeking additional compensation for TWU employees as a result of the necessity of performing these added services. Their tongue-in-cheek statement observes:

> We are not going to work ourselves into a lather about this, but the authority should know that we will not be soft-soaped out of asking more money and additional time for the added duties placed upon our members by the coupon plan.

This should be sufficient warning to the New York Transit Authority and to the Philadelphia Transportation Company as to what they may expect in future labor demands if the coupon-redemption plan continues in its present form.

This criticism would lose all its force if the merchandising companies redeem all coupons for tokens as suggested above.

4. Low Redemption Rate: The experience of stamp-redemption, cash discount coupons, and premium coupon plans is that the rate of redemption is low. Commercial companies do not issue the percentage of their stamps or coupons redeemed but one estimate is that the redemption rate is approximately one out of three. Robert Bains, chairman of the Advertising Distributors of America (specialists in mail and coupon redemption), has been quoted in *The New York Times* of June 22, 1958, as stating that a 35 per cent redemption rate for mailed-in coupons is "passing."

A redemption rate below 35 per cent in the mailing program is not considered successful.

There, however, is no assurance that the coupon-redemption rate of the Babbitt-Hudson plan will be as low as 35 per cent. It could be considerably higher as time goes on—especially if it is extended in the future to other merchandising companies and the time limit for coupon-redemption is removed.

The accusation directed at the plan that it is essentially a promotion gimmick, loses sight of the main objective of the plan; *i.e.*, to increase transit demand. The very boldness of the plan has merit. It emphasizes the advantages of mass urban transit. Often a gimmick is needed for such a worth-while purpose.

In the last analysis, the coupon-redemption plan may be described as a novel step to reverse the downward trend of the urban transit industries, as a co-operative effort of merchandising firms to assist the transit industry, and as an effort to increase the co-operation of all segments of the community to revive an essential service to all residents of cities and the ad-

jacent metropolitan areas. This alone makes the introduction and extension of the plan worth while.

Three Snags to Avoid

ONE warning is called for after observing the first weeks of the operation of the coupon-redemption plan in Philadelphia and the surrounding metropolitan area. This warning is that it is imperative that the Babbitt and Hudson companies (or any company which may later adopt the coupon-redemption plan for public transit) avoid three snags that have developed in the inauguration of the coupon-redemption plan in Philadelphia.

These snags are: (1) the inauguration of the coupon-redemption plan without prior publicity and promotion in the metropolitan area to be served by the coupon-redemption plan; (2) the inadequate stocking of the retail stores with products carrying transit coupons; (3) the omission of suburban transit zones from the coupon-redemption plan. The snags of inadequate publicity, promotion, and inadequate stocking are easily avoided by better planning, but the failure to include suburban transit zones (or intracity zones) within the coupon-redemption plan is serious to the full success of the plan. The commercial products are sold in all the suburban areas, and the suburbs have grown rapidly in recent years. They are a potential transit market of some importance for the generation of new transit demand.

It is not a sufficient argument for the transit company to maintain that the suburban zones are 10-cent cash zones, and the coupon-redemption plan applies to token fares or straight 20-cent cash fares only. The transit company should provide a plan whereby two coupons would be exchangeable for a 10-cent fare. This purpose could be accomplished by issuing a special token to the commercial companies distributing the coupons, and, in turn, these commercial companies could redeem the coupons for the special tokens. These special tokens would, of course, be a larger size than the normal token in order to avoid their use in the token turnstiles located within the city. The omission of the suburban rider from the coupon-redemption program is bound to result in ill will, and may adversely affect the transit demand. Again, this omission may open the transit companies to the charge of price discrimination in that the coupon-redemption privilege has a limited geographic application.

Summary and Conclusions

THE introduction of the coupon-redemption plan in New York city and in Philadelphia is of major importance to the users of mass transit. It is an attempt by merchandising companies to apply the principles of merchandise promotion to the transit industry. The evaluation of the plan indicates that it may be of major significance in the creation of good will toward transit companies, stimulate new demand for transit service, contribute to an increase in nonpeak hours' use of transit facilities, and reverse the trend away from mass transit.

The current criticisms of this plan may readily be overcome by the merchandising companies themselves providing for the redemption of coupons, and for the extension of the plan to additional merchandising companies.

OUT OF THE MAILBAG

Expense of Bell Financing

MARK TWAIN is reputed to have said that while everybody talked about the weather, nobody did anything about it. Although the parallel is not exact, it can almost equally well be stated that while a great many financially trained people talk about the "cost of capital," very few appear to have a correct conception of what the expression means.

This is particularly unfortunate when the term is used by financial writers in connection with public utility financing, or with the levels of utility earnings, since the misconception is apt to be accepted as valid reasoning and used by the opponents of private ownership in the utility field as an argument for a lower rate of return than that necessary to preserve financial integrity.

A case in point is provided by the statement of your financial editor, Owen Ely, in his comments in regard to AT&T, which appeared in his "Financial News and Comment" in the September 11, 1958, issue of the FORTNIGHTLY.

Mr. Ely referred to the September, 1956, sale of common stock and said that the "cost of the financing was approximately 13 per cent—since share earnings for that year were slightly over $13—as compared with an average yield of less than 5 per cent. *This was very expensive financing,* especially considering the huge size of the issue—about $573 million of new money was involved." (My emphasis.)

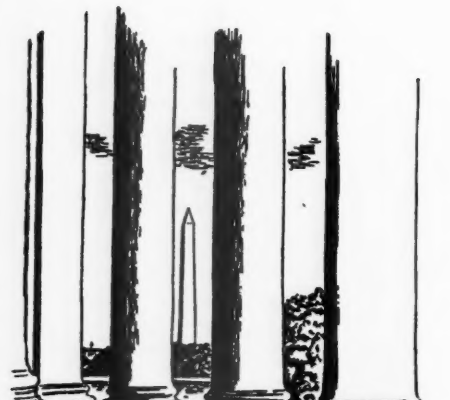
Presumably, Mr. Ely's "13 per cent" "cost of financing" is derived by relating the $13 of per share earnings to the *par value* ($100) of the stock. No other conclusion can be drawn from his words and figures. But, it should be obvious that the *par value* of common stock by no means measures the equity capital investment in a company and the relation of common stock earnings to the stock's *par value* is almost invariably meaningless. This is particularly true in the case of Telephone.

AT the end of 1956 AT&T's total common stock at par value amounted to $6,289,388,900. In addition to this, the system's equity investment applicable to the shares outstanding included $1,780,815,328 of premium on common stock and $1,316,978,495 of retained earnings. Thus, the total common stock investment at the year-end, excluding common stock subscribed and instalment payments, was $9,387,182,723, or about $150 per share. Consolidated earnings for the year 1956 applicable to the common stock were $755,933,854, indicating a "return" of about 8.1 per cent. Actually, the "return" was fractionally higher than this since the year's earnings should more correctly be related to the year's average equity capital rather than the end-of-year figure, but in the interests of simplicity I am not making this computation. Despite this, it is obvious that the ratio of earnings to equity capital was very much less than the "13 per cent" figure inferred by Mr. Ely.

It should be emphasized, moreover, that the "cost" of common stock capital to AT&T (presumably this is what Mr. Ely meant when he used the expression "cost of financing," although technically the two terms do not mean the same thing) or to any other utility would not at all be measured by the ratio of a single year's experienced earnings to the year's equity capital investment. The cost of capital is not determined in quite so simple a fashion.

While this is neither the time nor place to enter into a detailed analysis of AT&T's financing policy, I believe that it can be stated categorically that this policy has *not* resulted in "very expensive financing." Actually, I believe that the Bell system has in fact obtained new capital for expansion at a *lower cost* than would be demanded if investors were more fully conversant with the risks of the business.

—CHARLES TATHAM,
Research department,
Bache & Co.



Washington and the Utilities

NLRB Jurisdiction

SMALL utility companies and transit systems will be able to take advantage of the facilities of the National Labor Relations Board, as a result of the board's new standards which reduce the volume of business a concern must do to qualify for NLRB review. Under the 1947 Taft-Hartley law, the board was given jurisdiction in labor matters that involved companies in interstate commerce, except railroads and airlines which come under the Railway Labor Act. But the NLRB decided to limit itself to cases with a pronounced effect on interstate commerce, by setting up standards a company would have to meet to be eligible for NLRB attention.

The board's voluntary limitation on its own jurisdiction meant that many companies doing less business than the board specified could not get a hearing before the board on its labor controversies. Nor could employees of these companies enforce their rights under the Taft-Hartley law. A change in this situation became mandatory when the U. S. Supreme Court ruled that rejection of a case by the NLRB did not necessarily mean that a state could assume jurisdiction over the case, thus creating, in the court's own words, a "no man's land, subject to regulation by no agency or court." The Supreme Court suggested that Congress or the NLRB remedy the situation by extending the jurisdiction of the board. Congress responded this year by appropriating an additional $1.5 million to enable the board to increase its personnel necessary to take care of additional cases.

The board has now extended its jurisdiction simply by amending the standards required to qualify for board review. Under the new standards, nonretail companies qualify if their gross revenues amount to $50,000 outflow or inflow, direct or indirect. (Indirect outflow means sales within the state to users that have a $50,000 direct outflow or inflow. Indirect inflow means purchase of goods or services that originated outside the state but are purchased from a seller within the state.)

PUBLIC utilities qualify for NLRB review if they meet the nonretail standard, or if their gross volume of business amounts to $250,000. The same standard

applies to transit systems, except for taxicabs which must meet the retail standard. Intrastate transportation operations linking interstate commerce come within the board's jurisdiction, if revenue from the interstate portion of the enterprise, or from services performed for employers in interstate commerce, amounts to $50,000.

New standards have also been set up for newspapers and communications systems. Formerly, a newspaper was required to have a gross volume of $500,000 a year before the board would consider its labor disputes. Television, telegraph, and telephone companies had to meet a $200,000 gross volume requirement. In July, the board proposed to accept newspapers with $250,000 gross, and suggested the same figure for the other three. This would have permitted more newspapers to use the board's facilities, but would have reduced the number of television, telegraph, and telephone companies that could qualify. As finally determined, the new standards permit newspapers to qualify with $200,000 gross volume, and the others with $100,000.

Columbia Valley Authority

THE Senate Public Works Committee has scheduled hearings throughout the Pacific Northwest on proposed legislation to create a Columbia Valley Development Corporate Authority. The committee held hearings in Washington this year on a bill sponsored by Democratic Senator Neuberger of Oregon, who introduced the measure at the request of the Northwest Public Power Association. Neuberger's bill is now being redrafted for presentation in the first session of the 86th Congress. Interested parties will get a chance to present their views on the new version at hearings to be held in Portland, Oregon, December 8th; Seattle, Washington, December 9th; Coeur d'Alene, Idaho, December 10th; and Kalispell, Montana, December 11th.

A RECENT meeting of the executive committee of Pacific Northwest Development Association suggests that the proposed CVA will meet with considerable opposition. Th following is a summary of the views expressed at the meeting by twenty-six reclamationists, water law attorneys, farmers, and other property owners on the Neuberger Bill (S 3114):

1. If enacted into law, the legislation would give central government-autonomous control of the water resources of the Pacific Northwest states to three men of a five-man federally appointed board. Although an attempt is made to protect state water rights, in other places the legislation nullifies this by giving both specific and broad powers to the authority to control water resources.

2. No bill can be written using the broad powers of the federal corporation or authority concept to do the things intended by this legislative proposal that will not seriously endanger state and local water rights and laws and state control over this valuable resource.

3. There is nothing in the proposal that would prevent the authority from taking over all nonfederal electric utility property. Even if it were so stated, the concentration of the tremendous economic and quasi-political power in a public ownership-dominated federal authority would enable it to promote legislation to take any property it desires to expropriate. The legislation, therefore, is in direct opposition to the preservation of a private enterprise type of economy. The bond-financing features, similar to those proposed for TVA at the last session of Congress, provide almost unlimited federal credit, and would likewise give it almost unlimited economic

power. From this standpoint alone, the proposal is both unsound from a government fiscal position, and unneeded to continue the resource development program in the Pacific Northwest.

4. There are nonfederal and other federal agencies willing and able to provide jointly the in-power-business services needed, as well as reclamation, river improvement, and other services. According to experts, there are only a very few, if any, projects of the type that would use the bond-financing method, as prescribed in the bill, unless other existing federal and nonfederal agencies were obstructed from doing the job.

5. The legislation for this corporate authority, because of its controversial nature and the concealed broad powers and the tremendous concentration of economic and quasi-political power that the bond-financing federal credit would provide, is more dangerous to local autonomy than all previous authority proposals.

6. It was pointed out that the present check and balance system of water resource development, through the combined effort of established federal and nonfederal agencies, was the safest and best method of protecting water and property rights.

THE December hearings will take on added significance in view of the admitted failure of efforts to form a Columbia interstate compact. A September meeting of representatives of the seven Pacific Northwest states involved showed once again a hopeless deadlock between Washington and Oregon, on the one hand, and the Upper Basin states—Idaho, Montana, Utah, Wyoming, and Nevada—on the other. The Washington-Oregon representatives have agreed that they should ask to be relieved of their fruitless labors. The demise of the compact solution to regional water development is sure to give impetus to those seeking a TVA-type power authority for the Columbia valley.

Canadian Gas Imports

THERE is increasing optimism within the American natural gas industry that the controversy over bringing Canadian gas into the United States will be settled before Christmas. If so, western Canada probably will experience the biggest boom in Canadian history in the next few years, and the United States may very soon be getting six times the present flow of 200 million cubic feet of gas a day.

At this writing, the Federal Power Commission was trying to settle the long controversy over competitive proposals to import Canadian gas into the upper midwest states. Midwestern Gas Transmission Company was the applicant favored to win FPC approval to build a pipeline from Canada to serve midwestern communities —the line to tie in with Tennessee Gas Transmission Company's system.

Observers also predict that the interim report of the Borden Commission in Canada, to Canadian Prime Minister Diefenbaker, will side with Alberta and British Columbia gas men who are anxious to export gas to the United States. Having naturally followed the Borden Commission hearings closely, and having spent thousands of dollars to analyze the voluminous testimony, representatives of the gas industry in this country can see no other possible verdict. According to them, the testimony shows that Canada not only has far more gas reserves than the country can use now, but that her potential gas reserves are at least twelve times her proven reserves. Opposition to exportation of Canadian gas has come largely from Canadians in the East who want to keep the country's gas for "Canada's future."

Telephone and Telegraph

Plan to Wean REA Co-ops

It was disclosed on October 16th that the Eisenhower administration is opening a campaign to win farm support for its attempt to make REA co-op borrowers (including telephone borrowers) less dependent on the federal Treasury. Kenneth L. Scott, head of the Agriculture Department's credit services, said last month the department planned to seek support from general farm organizations and local electric co-operative associations. The hotly fought battle revolves around a law under which the department's Rural Electrification Administration lends money to local and regional rural electric co-operatives at a flat 2 per cent interest rate.

During the last Congress, the administration proposed raising interest rates on all government loans—including REA—to not less than the rate the Treasury pays when it borrows money. This would have raised REA rates to between 3 and 4 per cent. The administration also proposed in a separate bill that a revolving fund of private capital be created to replace some of the federal REA loans. The Congress, which usually has granted REA loan funds with a liberal hand, refused to consider either interest-boosting measure. Critics said the proposals would force higher power bills on farmers and drive many rural electric systems into the hands of private power companies seeking to buy them out.

Scott indicated support would be sought for a new proposal. The new plan, an addition and not a substitute for the earlier measures, would call for eventual establishment of a bank, financed and owned by the REA co-operatives themselves to meet their credit needs. Scott said many of the co-operatives already have funds which could be used to begin capitalizing such a bank.

USITA Meeting

The problem of REA financing of rural telephone operations also engaged a considerable amount of attention at the sixty-first annual convention of the United States Independent Telephone Association. Held in Chicago, as usual, this year an extra "early bird" session, known as the REA Borrowers Conference, was added to the customary three-day meeting. This conference, devoted exclusively to a discussion of REA financing in the telephone field, was held on Sunday, October 12th, prior to the usual convention meetings on October 13th through the 15th.

Among the speakers at this REA Borrowers Conference was Colonel William

C. Henry, president of Northern Ohio Telephone Company, who said that "It seems apparent that the REA is going to be with us for a long time." REA's telephone lending program, said Henry, is enabling many small independent commercial companies to improve and extend their service and to continue in existence as important parts of their communities. It is also helping other companies to finance the acquisition of adjacent companies and become, with greater combined resources, more self-sustaining and better able to employ competent personnel, with resulting improved managerial, supervisory, and technical talent available to render service to the public. Henry said he does not expect Congress to take any action in the near future to raise the present 2 per cent interest rate on REA loans and that, therefore, it is premature for USITA to take a position on the subject.

ANOTHER speaker at the REA Borrowers Conference was E. C. Weitzell, chief of the REA Telephone Operations and Loans Division. He reviewed progress being made in financing and rapid conversion of farmer lines through REA loans. He stressed the importance of regular reporting to review managerial functions and referred to the changing demands of rural telephony, including assisting federal services such as defense and air service activities. Mr. Weitzell spoke also of industry co-operation, saying:

> As independents, you should look forward to and assume the responsibility for merging and consolidating smaller units into more adequate and efficient operating systems. This must be done, however, without "bidding up" acquisition prices and without excessive costs of any type. We should do everything in our power to discourage the efforts of some to inflate the value of rural telephone property far beyond its ability to produce.

ON the final day of the USITA convention, REA Administrator David A. Hamil reviewed the progress made to date under the rural telephone program. He said:

> The best way to find out how REA operates is to ask the management of one of our borrowers. I think they will assure you that we are no more meddlesome than any other group of bankers. . . . The first loan was approved in February, 1950. By the end of September, 1958, about half a billion dollars in REA loans had been approved to 625 telephone borrowers—417 commercial companies and 208 co-operatives. These loans will enable the borrowers to construct 286,000 miles of line, to provide new or improved service to more than one million farmers and other rural subscribers through more than 2,000 exchanges.

WHILE most of the USITA convention papers and speeches were devoted to technical plant and operating problems, there was one very excellent discussion of regulatory problems by P. A. Nenzel, vice president and general manager of the California Water & Telephone Company. He said that recognition of attrition as a means of maintaining an adequate rate of return will not solve the problem of inflation which faces regulated telephone companies. The problem of long-term inflation must be met ultimately by recognition of current costs or present value, as distinguished from net investment or original cost. Nenzel warned that as decreased purchasing power of the dollar necessitates higher and higher rates of return to attain the "end-result" standard used by a number of state commissions,

"the public will in time rebel against what they would deem excessive rates of return as they would relate the rate of return on preinflation investment dollars to the return they are earning on their current dollars." The public relations aspect of maintaining adequate earnings alone "will ultimately force the use of fair value or current cost as a rate base," Nenzel said.

The convention elected as its president for the coming year Hugh A. Barnhart, president of the Rochester Telephone Company of Rochester, Indiana. He succeeds Clive W. Haas of Big Timber, Montana.

There was a very excellent and comprehensve 38-page report on the work of the USITA presented to the convention by the executive vice president, Clyde S. Bailey. This report discussed the "bright future" for independent telephone companies, the operating results of various classes (A to D) of independent companies filing statistical reports, and the association's work on toll compensation. Under the last-named item it was noted that whereas the independents obtained $12 million from the Bell system as toll message compensation in 1937, the total was $186 million in 1957—much of the increase due to the negotiations of the USITA as well as the rapid increase in the volume of traffic. Mr. Bailey's report also touched on the work of the USITA committees, the FCC investigation by Congress of various cases before the FCC, twelve items of legislation before Congress, and the USITA Management Seminar at Kansas University.

TV Licenses to Be Reviewed

THE United States Supreme Court on October 20th recommended further lower court deliberation on two midwest television awards because of testimony given last spring to House influence investigators. Two broadcasting companies brought the case to the high tribunal as a challenge to allocation of the channels by the Federal Communications Commission. By a 7-to-2 vote, the high court vacated decisions by the U. S. circuit court of appeals for the District of Columbia upholding the commission and sent the cases back to the appeals court.

The brief court order pointed out that since the appeals court decisions came down last spring testimony that might affect the case was given to House influence investigators. It said the appeals court may take whatever action it may deem "appropriate." The two companies are Sangamon Valley Television Corporation, which applied for Channel 2 in Springfield, Illinois, and WIRL Television Company, which applied for Channel 8 in Peoria, Illinois.

WIRL won the Channel 8 grant, but the FCC preferred another application—WMAY-TV—over Sangamon. WIRL and Sangamon went to court after the commission shifted Channel 2 to the Terre Haute, Indiana-St. Louis, Missouri, area and Channel 8 to the tricity area of Illinois and Iowa (Davenport-Rock Island-Moline).

THE commission replaced the two channels—both very high frequency—with ultrahigh-frequency channels. The action was part of the commission's "deintermixture" plan, under which channels in certain areas are ultrahigh frequency only while in other areas they are very high frequency only. Very high-frequency channels are considered more desirable in mixed areas because, among other things, many receiving sets do not bring ultrahigh frequency.

Financial News and Comment

By OWEN ELY

A Study of Stock Dividends

THE July-August issue of *Harvard Business Review* contains an article on "Evaluation of Stock Dividends" by C. Austin Barker, senior economist for Cleveland Electric Illuminating Company. Mr. Barker had published two earlier articles on stock splits in the January-February, 1956, and May-June, 1957, issues. In view of the recent interest in the policy of paying annual stock dividends (in addition to cash) announced by Commonwealth Edison, it may be of interest to summarize this scholarly study.

The number of stock dividends in recent years has reached record highs—143 were paid in 1955, 197 in 1956, and 177 in 1957, on the New York Stock Exchange alone. Benefits claimed for stock dividends include "permanent" increases in market price resulting from broadening of share ownership, tax benefits to investors in the higher income brackets, conservation of corporate cash for expansion, etc.

Mr. Barker feels that a basic distinction should be made between a stock split and a stock dividend—a split involves no change in capital account or surplus account; but a stock dividend requires transfer of a portion of the earned surplus to capital account. The New York Stock Exchange rule, which assumes any distribution of 24 per cent or less to be a stock dividend and any payment of 25 per cent or more to be a split up, he considers somewhat arbitrary.

REGARDING the effect of a stock dividend on market price, a number of studies have been made but none of them make the important distinction between stock dividends accompanied by cash dividend increases, and those with no increase in cash payments. Accordingly, he divides stock dividends into three groups—those accompanied by cash dividend increases, those with no increases (or decreases), and those which substitute stock for cash altogether. In studying these groups, the base date for each stock dividend was established as six months prior to the ex-

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dividend date, and the final comparison was made six months after the latter date.

During a three-year period there were 224 stock dividends of 5 per cent or over to be analyzed. After making various adjustments which need not be detailed here, Mr. Barker's conclusion was that an average price gain of 9 per cent was obtained where the cash dividend was increased, and that this was a lasting gain. This was irrespective of the short-lived price run up which frequently occurs during the first few days after the news of a stock dividend reaches the public. In contrast, if there is no cash dividend increase, the stock is apt to show a decline, amounting to as much as 12 per cent in some cases.

In some cases where a stock dividend has resulted in higher cash dividends there may be an increased percentage pay-out of earnings, with a resulting decrease in earnings protection. In such cases, particularly for cyclical stocks, the market price does not respond fully to the increase in the cash dividends. He therefore concludes "that in the long run smaller cash dividend increases, paid more frequently and with an eye to sound earnings protection, have the greater relative impact per dollar of increase and market price."

THE desire to conserve cash does not appear to be the motivating factor for many stock dividends—only about 15 per cent, according to Mr. Barker's analysis, covering 34 cases where the stock dividend was used to supplement a partial reduction in cash dividends or to replace the cash dividend. Maintenance of the regular cash dividend rate per share, and distribution of a stock dividend in lieu of a cash increase, does *not* usually conserve the corporation's total cash, he points out. Thus with a continuing $1 cash dividend rate and a 10 per cent stock dividend there is an actual increase of 10 per cent in the cash payment; and he thinks the company might just as well give a year-end extra cash dividend. Except for a three months' lag there is no cash conservation, and such a lag is too small to be of much significance. He concludes that no cash saving is achieved by means of a stock dividend unless the per share cash dividend is reduced by at least the amount of the stock dilution factor and if this is done the price of the stock tends to decline.

Regarding the stockholder's tax savings from stock dividends as compared with cash dividends, he is also somewhat skeptical, as the stockholder must pay a capital gains tax if he sells his stock dividends, or part of his original holdings; and if he retains the stock dividend he must pay the same regular income tax rate on his increased cash dividends. (Incidentally, *Business Week* for October 18th, pages 157, 158, contains a detailed explanation of taxes on stock dividends, including the treatment of fractional shares or scrip.)

REGARDING the payment of regular stock dividends, will the stockholder's total investment value increase at the same percentage rate as the stock dividend? Only ten out of 241 companies paid dividends of 5 per cent or more *each year* during the test period 1951-54. The combined price behavior of the six regular issuers that increased their cash dividends showed a real price gain of about 5 per cent over the general market. On the other hand, those that reduced their cash dividends suffered rather substantial declines.

Thus, Mr. Barker feels that there is no special price benefit arising from stock dividends even in cases marked by complete regularity or continuity; "competitive earnings and cash-dividend-paying ability is what determines the market price performance of stocks with similar risks." One reason for this may be that profes-

sional investors are not interested in stock splits or stock dividends, since high dollar value does not deter them from purchases. Studies made by others prove beyond doubt, Mr. Barker asserts, that evaluation of stocks made by professional investors is the dominant price factor in the modern stock market.

Do stock dividends help in stockholder growth by increasing the number of shareholders? He concedes that stock splits apparently have a good effect—one study showed an increase of 30 per cent over a three-year period compared with 6 per cent for "unsplit" stocks. For companies paying stock dividends the data indicate that there was a 20 per cent increase in the number of stockholders, or about two-thirds as much as for splits. Thus, both types of distribution may be said to accomplish this particular goal, although the stock dividend companies which did not increase the cash dividend rate showed poor results. Thus the increase in cash dividends may have been an important factor. "In no aspect . . . have I been able to find a single measurement approach that would show any proof that stock dividends have of themselves enhanced the market price of the stock," Barker said. "Both the broadening of ownership and the enhancement of market value in the long run are primarily dependent on fundamental investment quality."

A DISADVANTAGE of regular stock dividends, Mr. Barker points out, is the necessity of calculating the dilution factor —taxpayers with a 5 per cent distribution, for example, must apply a dilution factor of 95.2381 per cent to their original cost. Another bothersome detail is selling the fractional share scrip, although some companies take care of this by making cash payments for such scrip. (Commonwealth Edison will do so.) Another stock market complication is that "due bills" may be used in some cases, adding to the confusion of the stockholder.

Over $30 billion worth of common stock were held in personal trust funds in 1954 and numerous stock dividends mean administrative difficulties and extra expense for these trust accounts. Brokerage commissions are also heavy on small odd lots. The company issuing the stock dividends has extra expenses in connection with the issuance and handling of the additional shares. The cost of a 2-for-1 stock split in the 25,000 to 35,000 shareholder class is estimated at around $100,000 or over $3 per shareholder. "In view of the foregoing disadvantages," he concludes, "it is difficult to justify the very small, more or less continuous stock dividend perhaps as sound management policy," although he admits that there are certain exceptions. Stock splits at less frequent intervals might be a better policy, he thinks.

CURRENT YIELD YARDSTICKS

(Standard & Poor's Indexes)

	Oct. 15, 1958	*1958 Range*		*1957 Range*	
		High	*Low*	*High*	*Low*
Utility Bonds—Al+	4.18%	4.23%	— 3.58%	4.38%	— 3.70%
—Al	4.27	4.34	— 3.61	4.41	— 3.73
—A	4.47	4.50	— 3.85	4.70	— 3.96
—Bl+	4.91	4.96	— 4.20	5.21	— 4.21
Preferred Stocks*	4.61	4.66	— 4.26	4.86	— 4.42
Utility Common Stocks	4.23	4.98	— 4.22	5.44	— 4.73

*Twelve industrial and two utility issues (high-grade).

Thus, according to this research, the principal argument in favor of stock dividends is the potential increase in the number of shareholders, but so far as lasting gains in market price are concerned the results seem negative. Moreover, stock dividends have no special tax advantages, are not customarily used to conserve cash, and are frequently an inconvenience to shareholders.

MR. BARKER'S conclusions, while backed by painstaking statistical research, seem a little biased. It is doubtless true that many stock dividends do not fully accomplish the corporate objective, and some of them involve too much tax bookkeeping. However, the carefully developed policy of paying regular annual supplementary stock dividends, as proposed by Commonwealth Edison and as already practiced by three other utility companies, deserves to be examined carefully and thoroughly. A statistical study such as Mr. Barker's, based largely on the experience of cyclical industrial companies, may not be fully applicable to the more stable utility companies. In any event, the Commonwealth experiment is an interesting one and may provide a valuable lesson in finance for the utility industry.

Utility Financing at Low Ebb—Many Offerings Postponed

DUE to the abnormal bond market resulting largely from the weakness in treasuries, the volume of utility financing was very low in September and early October. Electric utility financing in September, including private offerings, amounted to only $86 million and the gas utilities sold about the same amount. Utility issues previously registered with the SEC but which were postponed, included the following:

$20 Million Montana Power Co. 1st Mortgage Bonds of 1988.

$17 Million Gulf States Utilities Co. 1st Mortgage Bonds 1988.

$10 Million Laclede Gas Co. 1st Mortgage Bonds.

$10 Million South Carolina Electric & Gas Co. 1st Refunding Mortgage Bonds 1988.

150,000 Shares Consumers Power Co. Preferred Stock.

As indicated in the table, page 764, prepared by Ebasco Services, total financing for all utilities in the nine months ended September 30th aggregated about $4.1 billion or an average of over $450 million a month (about $2 billion for electric utilities and $1 billion each for gas and telephone utilities).

"People's Capitalism" and the Utilities

THE First National City Bank *Letter* for September contains an interesting discussion of our "People's Capitalism." It presents a table of the 100 largest U. S. nonfinancial corporations, which includes 25 utility companies, 16 railroads, 3 merchandising, and 56 manufacturing companies. The *Letter* points out that in Communist theory all shops, mines, and factories belong to the worker—but in Communist practice the worker's share is greatly reduced, since the state as the real owner concentrates on the development of heavy industries. In contrast, with our "People's Capitalism" the public not merely has adequate buying power through high wages to enjoy the goods turned out in varied abundance, but also shares directly or indirectly in the dividends paid by these corporations.

The 100 largest corporations employed a total of 6.2 million men and women last

PUBLIC UTILITIES SECURITIES OFFERED FOR SUBSCRIPTION AND/OR SALE
(000 omitted)

	January 1 to September 30, 1958					January 1 to September 30, 1957				
	Total	Electric Companies	Gas Companies	Telephone Companies	Other Companies	Total	Electric Companies	Gas Companies	Telephone Companies	Other Companies
Long-Term Debt										
Offered Publicly	$2,237,006	$1,463,000	$ 528,758	$ 240,000	$ 5,248	$2,548,674	$1,283,500	$557,379	$703,795	$ 4,000
Offered Through Subscription	738,013	19,700	-	718,313	-	205,573	101,052	60,000	44,521	-
Offered Privately	400,643	90,393	265,000	36,850	7,400	376,445	170,950	123,460	63,485	18,550
Total	$3,375,662	$1,573,093	$ 794,758	$ 995,163	$12,648	$3,130,692	$1,555,502	$740,839	$811,801	$22,550
Preferred Stock										
Offered Publicly	$ 310,298	$ 192,500	$ 107,298	$ 10,500		$ 161,057	$ 59,057	$ 71,000	$ 28,750	$ 2,250
Offered Through Subscription	27,283	27,283	-	-		47,522	1,639	45,483	400	-
Offered Privately	14,075	12,100	-	1,975		4,250	-	-	750	3,500
Total	$ 351,656	$ 231,883	$ 107,298	$ 12,475	-	$ 212,829	$ 60,696	$116,483	$ 29,900	$ 5,750
Common Stock										
Offered Publicly	$ 163,341*	$ 61,125*	$ 79,623	$ 22,593		$ 149,665	$ 120,856	$ 23,018	$ 1,103	$ 4,688
Offered Through Subscription	209,215	133,886	31,273	44,056		403,317	291,524	59,124	49,669	3,000
Total	$ 372,556	$ 195,011	$ 110,896	$ 66,649	-	$ 552,982	$ 412,380	$ 82,142	$ 50,772	$ 7,688
Total Financing	$4,099,874	$1,999,987	$1,012,952	$1,074,287	$12,648	$3,896,503	$2,028,578	$939,464	$892,473	$35,988
	Segregation of Financing - By Purpose									
Total Refunding	$ 231,289	$ 101,900	$ 14,389	$ 115,000	-	$ 69,463	$ 12,835	$ 53,500	$ 2,303	$ 825
Total Divestments	-	-	-	-	-	$ 35,881	$ 9,975	$ 21,218	-	$ 4,688
New Money										
Long-Term Debt	$3,144,373	$1,471,193	$ 780,369	$ 880,163	$12,648	$3,064,357	$1,542,667	$687,339	$811,801	$22,550
Preferred Stock	351,656	231,883	107,298	12,475	-	209,701	60,696	116,483	27,597	4,925
Common Stock	372,556	195,011	110,896	66,649	-	517,101	402,405	60,924	50,772	3,000
Total New Money	$3,868,585	$1,898,087	$ 998,563	$ 959,287	$12,648	$3,791,159	$2,005,768	$864,746	$890,170	$30,475
Total Financing	$4,099,874	$1,999,987	$1,012,952	$1,074,287	$12,648	$3,896,503	$2,028,578	$939,464	$892,473	$35,988
	Segregation of Financing - By Type									
Competitive Bidding	$1,908,468	$1,441,468	$ 227,000	$ 240,000	-	$2,300,330	$1,334,830	$265,500	$700,000	-
Negotiated Sales	$ 801,555	$ 274,535	$ 488,679	$ 33,093	$ 5,248	$ 559,066†	$ 128,583	$385,897	$ 33,648†	$10,938
Subscription										
Competitive Bidding	$ 14,528	$ 14,528	-	-		$ 157,317	$ 106,834	$ 50,483	-	-
Negotiated Sales	182,239	150,217	$ 30,436	$ 1,586		372,516	200,054	113,566	$ 58,896	-
No Underwriting	777,744	16,124	837	760,783		126,579	87,327	558	35,694	$ 3,000
Total Subscription	$ 974,511	$ 180,869	$ 31,273	$ 762,369	-	$ 656,412	$ 394,215	$164,607	$ 94,590	$ 3,000
Private Sales	$ 415,340	$ 103,115	$ 266,000	$ 38,825	$ 7,400	$ 380,695	$ 170,950	$123,460	$ 64,235	$22,050
Total Financing	$4,099,874	$1,999,987	$1,012,952	$1,074,287	$12,648	$3,896,503	$2,028,578	$939,464	$892,473	$35,988

* Includes $622,000 of Common Stock sold Privately

† Includes $3,000,000 Preferred Stock not underwritten.

Ebasco Services Incorporated
Corporate Finance Department
October 3, 1958 - AVR

year, and the total reported assets of $148 billion averaged about $24,000 per employee (for utilities $38,000). The ownership of these companies was vested in 10.8 million stockholders — a decade ago the figure was 6.7 million, indicating an increase of 60 per cent. About three-quarters of the companies reported that they had more stockholders than employees.

THE 100 companies paid out 4.3 cents of the revenue dollar in preferred and common dividends and retained about 3.4 cents in the business—so that stockholders had an equity of less than 8 cents compared with over 28 cents given to labor, and more than 9 cents paid to government agencies in taxes. Each employee received an average of $5,600 per annum in wages and other benefits.

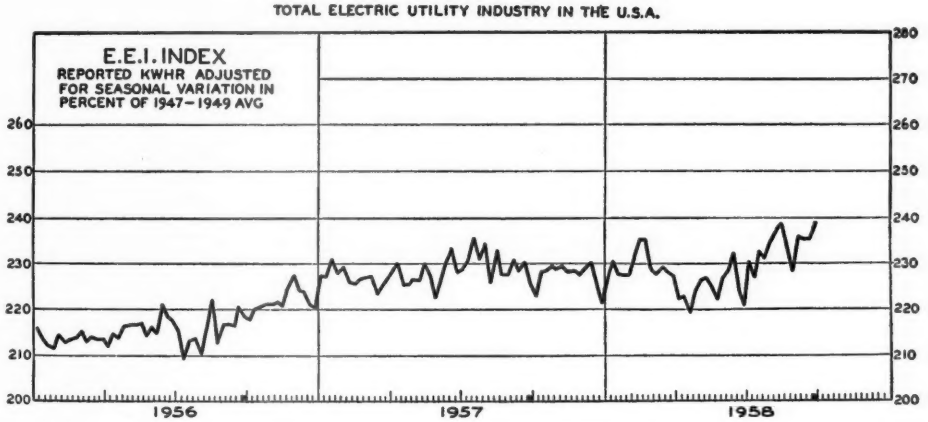
The *Letter* points out that the growth of these large enterprises has not reduced the number of smaller enterprises, which now total about 4.3 million compared with 4 million a decade ago. Summarizing, the *Letter* states: "Profits are the guide to management in supplying the things the public wants and is willing to pay for. Without this guide, the alternative is a government bureaucracy to determine what and how much is to be produced; and the public has to take what is offered whether it likes it or not."

FPC Forecast of 1980 Electric Load

THE Federal Power Commission in Bulletin P-31 has made projections of energy requirements for 1980, from which following percentages have been derived:

	1957	*1980*	*Increase*
Farm Use (Excluding Irrigation)	22	44	100%
Irrigation, etc.	9	17	89
Residential	134	453	238
Commercial	95	271	185
Industrial	290	831	187
Municipal	6	14	133
Transit	4	5	25
Miscellaneous	19	39	105
Line Losses, etc.	61	192	215
Total	638	1,866	192%

Turning to the table showing the increase by areas, we arrive at the following percentage increases:



Electric Power Supply Areas	Billions of Kw Requirements 1957	1980	Increase
I—Northeast	123	318	159%
II—East Central	125	348	178
III—Southeast	127	342	169
IV—North Central	76	234	208
V—South Central	62	201	224
VI—West Central	12	44	267
VII—Northwest	54	180	233
VIII—Southwest	59	200	239
U. S. Totals	638	1,866	192%

GAINS for different periods of years for the U. S., compare as follows:

1955-60	46%
1960-65	30
1965-70	24
1970-75	21
1975-80	19

The comparison between kinds of generating capacity is as follows, in millions of kilowatts:

	1957	1980	Increase
Hydro	28	58	108%
Steam and Nuclear	114	354	210
Internal Combustion	4	11	175
Total	146	423	190%

THE commission apparently assumes a gradual slowing down in the rate of growth for the electric power industry or perhaps makes allowance for the potential effects of future wars and depressions. The study assumes a population of about 228 million for the United States in 1975.

The report brings up to date the historical information contained in the December, 1956, publication, presenting forecasts for 1955-80 (FPC P-30).

RECENT FINANCIAL DATA ON GAS UTILITY STOCKS

Annual Rev. (Mil.)			10/16/58 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1952-57	Price-Earns. Ratio	Div. Payout	Approx. Common Stock Equity
		Pipelines and Integrated Systems									
$ 5	O	Ala.-Tenn. Nat. Gas	23	$1.20	5.2%	$1.66Je	17%	13%	13.8	72%	41%
192	S	American Nat. Gas	61	2.60	4.2	4.08Je	6	12	15.0	64	33
58	A	Arkansas Louis. Gas	37	1.20	3.2	1.85De	19	47	20.0	65	52
57	O	Colo. Interstate Gas	45	1.25	2.8	1.98Je	NC	—	22.7	63	23
376	S	Columbia Gas System	20	1.00	5.0	1.50Je	24	12	13.3	67	44
7	O	Commonwealth Gas	8	—	—	.40De	D26	—	20.0	—	77
17	O	Commonwealth N. G.	44	1.80	4.1	3.21Je	13	—	13.7	56	43
11	S	Consol. Gas Util.	18	.90	5.0	1.67Jy	D3	6	10.8	54	60
280	S	Consol. Nat. Gas	47	2.00	4.3	3.46Je	D2	12	13.6	58	57
18	O	E. Tenn. Nat. Gas	12	.60	5.0	.85Je	2	—	14.1	71	20
301	S	El Paso Nat. Gas	33	1.30	4.0	2.39De	13	12	13.8	54	20
46	S	Equitable Gas	36	1.60	4.4	2.24Je	6	4	16.1	71	42
24	O	Gulf Interstate Gas	16	.50	3.1	.85De	10	—	18.8	59	21
34	O	Houston N. G.	26	.80	3.1	1.70Jy	21	8	15.3	47	27
20	O	Kansas-Nebr. Nat. Gas	39	1.80(f)	4.6	2.40Je	D7	12	16.3	75	32
109	S	Lone Star Gas	39	1.80	4.6	2.39Je	D2	10	16.3	75	43
75	S	Miss. River Fuel	36	1.60	4.4	2.00De	D14	2	18.0	80	49
26	S	Montana Dakota Util.	27	1.00	3.7	1.59Je	10	12	17.0	63	31
25	O	Mountain Fuel Supply	26	1.20	4.6	1.65Je	D2	8	15.8	73	62
86	S	National Fuel Gas	21	1.10	5.2	1.39Je	D3	—	15.1	79	58
129	S	Northern Nat. Gas	28	1.40	5.0	1.64Je	D12	7	17.1	85	34
43	S	Oklahoma Nat. Gas	36	1.50	4.2	2.18Jy	15	6	16.5	69	34
117	S	Panhandle East. P. L.	53	1.80	3.4	2.74De	—	2	19.3	66	41
13	O	Pennsylvania Gas	24	1.20	5.0	2.18De	D3	4	11.0	55	59
174	S	Peoples G. L. & Coke	46	2.00	4.3	2.88Jy	NC	7	15.9	69	39
101	S	Southern Nat. Gas	40	2.00	5.0	1.95Je	D16	4	20.5	103	41
38	O	Southern Union Gas	28	1.12	4.0	1.53De	—	10	18.3	73	31
313	S	Tenn. Gas Trans.	32	1.40	4.4	2.00Je	50	10	16.0	70	20
175	O	Texas East. Trans.	31	1.40	4.5	2.66Je	33	25	11.7	53	18
96	O	Texas Gas Trans.	28	1.00(b)	3.6	2.05Je	D6	16	13.7	49	27
97	O	Transcont. Gas P. L.	23	1.00(b)	4.3	1.46Je	4	29	15.8	68	21
300	S	United Gas Corp.	34	1.50	4.4	2.50Je	3	12	13.6	60	41
		Averages			4.3%		5%	9%	15.9	66%	

Annual Rev. (Mill.)		(Continued)	10/16/58 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1952-57	Price-Earns. Ratio	Div. Payout	Approx. Common Stock Equity
		Retail Distributors									
28	S	Alabama Gas	31	$1.60	5.2%	$2.73Je	24%	15%	11.4	59%	42%
44	O	Atlanta Gas Light	36	1.60	4.4	2.63Se	20	5	13.7	61	33
3	O	Berkshire Gas	19	1.00	5.3	1.33Je	D3	31	14.3	75	39
6	A	Bridgeport Gas	29	1.60	5.5	2.13Je	D5	1	13.6	75	50
5	O	Brockton-Taunton Gas	17	.90	5.3	1.18De	D8	43	14.4	76	41
70	S	Brooklyn Union Gas	48	2.20	4.6	3.24Je	20	13	14.8	68	42
4	O	Cascade Nat. Gas	8	—	—	Def.De	—	—	—	—	18
39	O	Central Elec. & Gas	19	1.00	5.3	1.55Je	6	15	12.3	65	18
13	O	Cent. Indiana Gas	15	.80	5.3	1.11Je	7	7	13.5	72	67
5	O	Chattanooga Gas	6	.35	5.8	.59My	60	14	10.2	60	46
66	O	Gas Service	32	1.36	4.3	2.84Je	93	7	11.3	48	35
8	O	Hartford Gas	42	2.00	4.8	2.11My	D8	—	19.9	105	37
3	O	Haverhill Gas	22	1.40	6.4	1.99Au	2	20	11.1	70	58
18	O	Indiana Gas & Water	24	1.00(b)	4.2	1.54Au	8	11	15.6	65	47
48	S	Laclede Gas	19	.90	4.7	1.37Je	20	7	13.9	66	33
5	O	Michigan Gas Util.	19	1.05	5.5	1.32Je	1	18	14.4	80	34
6	O	Midsouth Gas	15	.57	3.8	1.00Ap	54	7	15.0	57	41
43	O	Minneapolis Gas	31	1.45	4.7	1.85Je	D13	12	16.8	78	42
15	O	Miss. Valley Gas	24	1.20	5.0	2.39Je	73	14	10.0	50	33
5	O	Mobile Gas Service	23	1.10	4.8	1.89Je	70	—	12.2	58	35
7	O	New Haven Gas	34	1.80	5.3	2.36De	4	—	14.4	76	68
13	O	New Jersey Nat. Gas	38	1.60	4.2	2.71Je	17	—	14.0	59	35
80	O	No. Illinois Gas	22	.88	4.0	1.39Au	2	—	15.8	63	54
9	O	North Penn Gas	11	.60	5.5	.85Je	D5	8	12.9	71	58
16	O	Northwest Nat. Gas	17	.72	4.2	* .99Je	D23	4	*17.2	73	39
240	S	Pacific Lighting	50	2.40	4.8	3.16Je	37	—	15.8	76	36
22	O	Pioneer Nat. Gas	28	1.40	5.0	1.74Je	NC	13	16.1	80	36
2	O	Portland Gas Lt.	12	.50	4.2	1.50Ma	127	—	8.0	33	25
9	A	Providence Gas	10	.56	5.6	.56De	D10	13	18.0	100	50
3	A	Rio Grande Valley Gas	4	.15	3.8	.32Je	24	8	12.5	47	52
6	O	So. Atlantic Gas	15	.80	5.3	1.39Ma	43	5	10.8	58	30
12	S	So. Jersey Gas	38	1.60	4.2	2.28Au	20	24	16.7	70	47
29	S	United Gas Impr.	45	2.20	4.9	2.94Je	18	5	15.3	75	64
51	S	Wash. Gas Light	45	2.24	5.0	3.44Je	36	2	13.1	65	41
11	O	Wash. Nat. Gas	15	(g)	—	.55Je	45	—	—	—	41
8	O	Western Ky. Gas	15	.60	4.0	1.53Je	112	4	9.8	39	38
		Averages			4.9%		25%	10%	13.8	68%	

RECENT FINANCIAL DATA ON TELEPHONE, TRANSIT, AND WATER STOCKS

Annual Rev. (Mill.)			10/16/58 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1952-57	Price-Earns. Ratio	Div Payout	Approx. Common Stock Equity
		Communications Companies									
		Bell System									
$6,313	S	Amer. T. & T. (Cons.)	194	$9.00	4.6%	*$13.53Au	4%	3%	*14.3	67%	64%
303	A	Bell Tel. of Canada	43	2.00	4.7	2.00De	D11	—	21.5	100	66
46	O	Cin. & Sub. Bell Tel.	87	4.50	5.2	4.93De	D12	1	17.6	91	100
232	A	Mountain Sts. T. & T.	130	6.60	5.1	8.89My	D5	3	14.6	74	73
324	A	New England T. & T.	146	8.00	5.5	8.93Je	7	2	16.3	89	55
864	S	Pacific T. & T.	138	7.00	5.1	8.08Au	D12	1	17.1	87	59
108	O	So. New Eng. Tel.	40	2.00	5.0	1.90De	D13	—	21.1	105	64
		Averages			5.0%		D6%	1%	17.5	87%	
		Independents									
5	O	Anglo-Canadian Tel.	36	$1.20	3.3%	$3.17Je	D2%	56%	11.4	38%	55%

Annual Rev. (Mil.)		(Continued)	10/16/58 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1952-57	Price-Earns. Ratio	Div. Payout	Approx. Common Stock Equity
41	O	British Col. Tel.	41	2.00	4.9	2.08Je	D24	5	19.7	96	31
4	O	Calif. Inter. Tel.	14	.70	5.0	.87Je	D11	—	16.1	80	24
18	O	Calif. Water & Tel.	23	1.20	5.2	1.54Je	1	—	14.9	78	48
18	O	Central Telephone	23	1.00(b)	4.3	1.99De	—	10	11.6	50	28
5	O	Commonwealth Tel.	18	.90	5.0	1.24Je	D16	—	14.5	73	37
4	O	Florida Telephone	28	.90	3.2	1.00My	D10	1	28.0	90	46
289	S	General Telephone	53	2.00	3.9	2.99Au	D4	32	17.7	67	34
18	O	Hawaiian Telephone	18	1.00	5.6	*1.13Se	D12	7	*16.0	88	43
7	O	Inter-Mountain Tel.	16	.80	5.0	.94De	17	2	17.0	85	63
21	O	Rochester Tel.	21	1.00	4.8	1.04Je	D25	—	20.3	96	33
4	O	Southeastern Tel.	20	.90	4.5	1.11De	D21	—	18.0	81	54
10	O	Southwestern St. Tel.	24	1.20	5.0	1.57Je	D6	4	15.3	76	35
10	O	Tel. Service of Ohio	160	1.40(b)	0.9	8.18Je	13	NA	19.6	17	NA
34	O	United Utilities	27	1.25	4.6	1.54De	D6	1	17.5	81	40
15	O	West Coast Tel.	22	1.00	4.5	1.29Je	D13	4	17.1	77	35
260	S	Western Union Tel.	25	1.20	4.8	2.03De	D8	—	12.3	59	85
		Averages			4.4%		D8%	7%	16.8	73%	
		Transit Companies									
21	O	Baltimore Transit	6	—	—	$1.01De	124%	—	5.9	—	41%
12	O	Cincinnati Transit	5	$ .30	6.0%	.52De	9	—	9.6	58%	49
65	S	Fifth Ave. Coach	19	—	—	2.46De	D29	—	7.7	102	68
308	S	Greyhound Corp.	16	1.00	6.3	1.22De	D4	—	13.1	82	45
25	S	Nat. City Lines	24	2.00	8.3	2.74De	12	9%	8.8	73	94
13	O	Niagara Frontier Trans.	8	.60	7.5	.77De	35	—	10.4	78	78
65	O	Phila. Trans.	7	.60	8.6	1.23De	D25	—	5.7	49	38
17	A	Pittsburgh Rys.	9½	.25	2.6	Deficit	—	—	—	—	90
6	O	Rochester Transit	4½	.40	8.9	.64De	D6	29	7.0	63	100
22	O	St. Louis P. S.	10	1.00	10.0	.57De	D17	19	17.5	175	94
15	S	Twin City R. T.	12	1.20	10.0	1.01De	D16	—	11.9	119	53
21	O	United Transit	5	.60	12.0	.87Ma	D1	11	5.7	69	51
		Averages			8.0%		7%	—	9.4	87%	
		Water Companies									
		Holding Companies									
43	S	American Water Works	14	$ .60	4.3%	$ .97Je	2%	5%	14.4	62%	17%
		Operating Companies									
5	O	Bridgeport Hydraulic	33	$1.70(f)	5.2%	$2.05De	D2%	5%	16.1	83%	53%
15	O	Calif. Water Service	46	2.40	5.2	3.14Au	D9	6	14.6	76	33
4	O	Elizabethtown Water	45	2.00	4.4	3.90De	19	30	11.5	51	58
11	S	Hackensack Water	45	2.00	4.4	3.18De	11	6	14.2	63	38
8	O	Indianapolis Water	23	1.00	4.3	1.26De	D11	—	18.3	79	35
6	O	Jamaica Water	38	2.00	5.3	2.90(a)Je	—	—	13.1	69	26
5	O	New Haven Water	65	3.40	5.2	2.30De	D20	—	28.3	148	61
2	O	Ohio Water Serv.	29	1.50(b)	5.2	2.05Je	D12	10	14.1	73	32
8	O	Phila. & Sub. Water	37	.50(b)	1.4	2.93Je	D10	7	12.6	18	28
2	O	Plainfield Union Water	58	3.00	5.2	4.42De	D12	2	13.1	68	63
4	O	San Jose Water	49	2.80(f)	5.7	3.30Au	D12	9	14.8	85	42
10	O	Scranton-Springbrook	21	1.00	4.8	1.67Je	10	7	12.6	66	29
5	O	South. Calif. Water	18	.80	4.4	1.13Je	D5	12	15.9	71	31
4	O	W. Va. Water Service	20	.68(d)	3.4	1.64Je	D5	9	12.2	41	17
		Averages			4.6%		D4%	7%	15.1	70%	

A—American Stock Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. NC—Not comparable. NA—Not available. D—Decrease. *On average shares. (a)—Adjusted to eliminate 13 cents per share of nonrecurring tax savings. (b)—Also stock dividend in 1957. (d)—Also 1 per cent stock dividend quarterly. (e)—Also 10 per cent stock dividend May 19, 1958. (f)—Includes extras. (g)—Four per cent stock dividend June 6, 1958.

What Others Think

Radio Use by Telephone Companies

SOME of the radio planning considerations to be weighed by telephone companies in relation to development of their services is interestingly discussed by Thomas R. Warner, radio engineer, in a report prepared for the United States Independent Telephone Association.

He explained that new developments in radio equipment and new applications of radio are taking place daily. Intelligent planning is necessary, he said, plus imagination to utilize radio circuits that meet customer needs at a reasonable cost.

Warner pointed out that radio has presented the telephone companies with an opportunity to eliminate the need for large expenditures in wire plant and right-of-way investment and expense.

He said that an increasing number of usable frequencies are becoming available because of refinement in design of equipment, but admits that allocation of these segments of the radio spectrum by the FCC presents numerous difficulties.

Warner has this to say about mobile radiotelephone service:

> . . . Many smaller businesses are increasing their revenues and reducing operating costs by the use of mobile radiotelephone service. Similarly, an increasing number of professional people and private individuals are also subscribing to this type of service.

He said extensive tests are being conducted toward an air-ground communication service, probably with interconnection to the public telephone system. There has been a long-time demand for this service both from commercial and private aircraft, and Warner pointed out that "The extensive system of national airways would indicate that independent telephone companies should consider the offering of this service as a possible extension of their present facilities if and when such a service is established."

TWO-WAY communication service between a customer's mobile unit and his fixed locations, without connection to the public telephone system, needs a radio channel separate and distinct from the public correspondence channels. For mobile service into the public telephone system no exclusive service to an individual customer can be offered as these public channels are accessible to all users.

Warner called attention to these facts:

> Both of these two-way communications services use the same type of radio equipment. Both have the same antenna location problems to obtain comparable communication range. Both use frequency channels in the same general portions of the radio spectrum with the same operational problems. Finally,

both require the same level of maintenance to produce the same dependability of service.

Those telephone companies wishing to furnish mobile radiotelephone service should explore the possibility of providing both types of service, Warner suggested. He said that

> By leasing all the necessary equipment to any user who is eligible for assignment of a radio channel by the FCC and maintaining this equipment for him, an independent telephone company could utilize its same maintenance shop and personnel for both public and private service. . . . many private systems in all probability could be persuaded to obtain such service from the telephone company because of the difficulty they at times encounter when attempting to justify the investment in equipment and maintenance. . . .

One-way signaling or dispatch type of mobile communication should be considered along with the two-way services, Warner declared, in view of the fact that it uses the same type of radio channels, equipment, and maintenance procedures.

DIRECT dialing is the newest development in mobile communications, he said. Present equipment can handle 10 separate mobile stations per channel with possible expansion to 20. Activity of each station is the governing factor regarding how many stations can be served, however. Warner said further:

> The telephone company itself needs mobile communication in connection with the construction and maintenance of its own plant. Appreciable reduction in operating cost and greater overall efficiency of service could be realized if this could be done economically. . . . In accordance with present regulations telephone companies are required to offer a regular domestic public radio service and demonstrate to the commission that they have solicited all potential subscribers for this type of service before they may use the same service for their own construction and maintenance activities. . . . The commission has recognized this problem and it is hoped that, in the near future, frequencies will be made available for use exclusively by telephone companies for maintenance and construction purposes.

Warner urged telephone companies to consider the possibilities, too, of the microwave region of the radio spectrum. He said several hundred circuits can be placed on a single microwave radio channel which makes it expensive when many channels are not required. But by very virtue of this singular feature, many users will look to the telephone company for circuits where their needs are small in scope.

THE exodus to the suburbs will affect the use of microwave, too, Warner predicted. Not only people, but industries have moved out. Need for private wire service by businesses will require either expansion of wire circuits or use of wire carrier equipment. Or the problem can be solved, perhaps more economically, he said, by utilizing microwave frequencies. Warner also felt that

> The telephone company must also consider the microwave region as a means of expanding or replacing present wire facilities. The problems of right of way particularly in connection with relocations, of circuit restoration, and of circuit expansion indicated above apply also to present plant problems. The everyday communication needs of the individual citizen have increased as

he has moved into the suburbs. The telephone company plant must expand to meet these demands also.

Warner referred to the use of closed-circuit television in which microwave radio channels are basically the same as those used in providing voice circuits. He said development of slow-scan, narrow-band television transmission of documents, signatures, meter-face readings, and like services is just beginning and that phone companies should consider these applications when planning for future requirements. He mentioned that

> The high speed transmission of data and quality transmission of picture elements require error-free operations. Many users will prefer the disciplined service and dependability of a telephone company common carrier microwave system rather than to deal with the problems of dependability of operation and maintenance on their own private systems.

In regard to equipment and maintenance in connection with these new air-wave services, Warner said it would require new techniques, new equipment, and trained personnel to implement them.

He said equipment, however, is getting simpler and more dependable. He pointed out that much technical equipment required to produce additional circuits by carrier on wire circuits will also function in the same manner as radio equipment. In planning to expand service by using carrier or wire circuits, consideration should be given to using channelizing equipment which can also be used with radio equipment. The shifting of several circuits from wire to radio at some future date can be most economically accomplished by employing interchangeable equipment.

As a result, Warner stated,

> . . . the requirement for specially trained radio personnel within the telephone company is reduced. There are, however, basic requirements established by the FCC for the use of licensed maintenance personnel whenever certain technical adjustments are performed on the radio equipment. The telephone company . . . can have one of the employees qualified as a licensed radio maintenance technician and at the same time utilize him on other technical telephone maintenance so long as the volume of radio work is small.

Warner summarized his survey of radio applications for telephone companies by saying that they definitely underscore the necessity for giving serious consideration to the use of radio facilities when planning future operations.

Ban on Downtown Auto Traffic?

If downtown deterioration is to be halted, cities must begin immediately to cut down on the number of private vehicles moving in and through the inner core, looking ultimately to a complete ban on downtown parking.

That's the opinion expressed by the *Bach Letter* in a searching analysis of the causes of the traffic-created paralysis in downtown shopping.

"Merchants are disheartened by the snarl of downtown traffic," the letter asserts. "They have reason, not only for discouragement, but for dismay. The centers of urban merchandising, once so convenient for shopping, now can be reached

only by slower, more uncomfortable, or more expensive means of transportation.

"In city after city the old retail centers become harder to get to, more dangerous to walk in. And it's not just the immediate situation that's so discouraging. What really hurts is the experts' promise that matters will get worse," it warns.

It emphasizes "there is not any agreement among the experts as to solutions," and notes "bus companies, retailers, and even municipal traffic engineers seem to be constantly at loggerheads. In only a few cities has congestion been attacked with full co-operation of all concerned."

Traffic congestion costs major cities millions of dollars a year—in slower service, increased delivery costs, more breakage, more traffic policemen, accidents, and in the loss of sales.

"MILLIONS are spent on traffic surveys each year. But these are examined through bifocal lenses, with each group looking only through the lens which provides the picture it wants to see," the letter observes.

The reason that most of the "solutions" have not worked to ease the traffic problem, it contends, is "because they attacked only one or two superficial symptoms of congestion, not the real causes. As long as groups interested in rehabilitating the downtown areas are diverted by false reasoning the problem will defy solution."

While the situation here and across the nation is bad now, the *Bach Letter* asserts "in ten years it will be worse and more and more cities will suffer from hardening of the arteries.

"In fact, if Detroit has a few good years in a row, we might as well sell out our downtowns fast. There will be no way to reach them. We build freeways, thruways, and expressways. But we succeed only in making the cities easier to reach from farther out, tapping a larger area for cars for which we have no room."

The problem cannot be solved, bluntly warns the letter, "by building more parking lots." In fact, it argues, the more we build "the more successful we are in enticing more cars to come into the city." This, of course, multiplies congestion.

"Private car parking will have to go," the letter asserts. "For our downtown areas, at least, it is the only solution. It will save millions each day in direct costs, more in indirect costs.

"ADEQUATE or inadequate, our public transit systems are the only logical and economical means of access to the centers of our cities.

"When the downtown streets are finally cleared of parked private cars and we run a promotion, at least there will be a way of getting there," the letter explains.

"Surely even those women who have cars available during the day find the prospect of driving downtown distasteful. They have to fight their way in and pray for parking. If we run promotions, we want them to come in to buy without running an obstacle course first.

"No wonder the alternatives—telephone and mail order, suburban shopping, or perhaps no shopping at all—appear the better part of valor today.

"Retailers must not permit their investments in downtown shopping areas to deteriorate," the letter cautions.

"We have made a careful analysis of various proposed solutions. Most of them, at best, only postpone the day of reckoning. The methods which have proved most successful are those which (as part of an overall plan) begin by severely curtailing the use of the private car downtown. This will prove to be the only salvation for tomorrow's downtown retailer."

The March of Events

Higher Rates Sought

THREE subsidiaries of the Columbia Gas System have asked the Federal Power Commission to approve higher rates. They wish to put them into effect on November 6th. If approved, the combined total of the rate boost would amount to $10.6 million annually.

United Fuel Gas Company wants authority to increase its rates by $6,629,300, or 4.8 per cent, annually for ten wholesale customers, including Atlantic Seaboard Corporation and Kentucky Gas Transmission Corporation. Atlantic Seaboard is seeking a $2,222,000, or 3.4 per cent annual increase in rates. Kentucky Gas' proposed increase totals $1,721,400, or 5 per cent annually. All three companies propose to put the higher rates into effect on November 6th.

Arizona

Co-operative Power Sale

MEMBERS of the Verde Electric Co-operative, Inc., have approved the sale of their power distribution facilities to Arizona Public Service Company. The vote was 231 to 80, which was better than the 3-to-1 majority required.

The price at which the co-operative will sell its physical assets to Arizona Public Service Company is $600,000. Under the terms of the utility's offer, all obligations of the co-op will be eliminated, membership fees and deposits will be refunded, and rate reductions averaging 25 per cent will be put into effect. Also service will be improved by providing additional service man power in the area.

A majority of the co-op's members have been trying for several years to sell the organization's facilities, but up to now by-law requirements made their efforts abortive.

District of Columbia

Wider PUC Rate Powers

A MEMBER of the District of Columbia Public Utilities Commission, Harold A. Kertz, believes the public utilities commission should have authority to grant temporary rate increases to utility companies during prolonged rate hearings.

Kertz proposed a revamping of the city of Washington's 45-year-old utilities law, saying that the financial condition and credit of utilities, as well as the services they perform, could be adversely affected under the present law.

The commission does not now have

power to grant temporary rate increases. As a consequence a company could be severely penalized when proceedings leading to a necessary rate increase drag out for a year or more. Any change in the law, Kertz pointed out, should also have built-in provisions to act as consumer safeguards.

Revising the law will require action by Congress.

Kentucky

Seeks Unified Gas System

THE Kentucky Public Service Commission has appealed to the gas suppliers in southeastern Kentucky to help solve the perennial winter gas shortages that have plagued the area. At a hearing it was learned that a group of officials of gas companies concerned were considering formation of a syndicate to purchase the gas well and transmission lines of Petroleum Exploration Company, Peoples Gas Company, and Bell-Knox Pipeline Company.

The gas companies' group consisted of representatives from London Gas Company, Middlesboro Gas Company, Pineville Gas Company, Bell-Knox Pipeline Company, and Associated Drilling Company. The purpose of the syndicate was to set up a unified gas system. Areas to be served would include the cities of London, Manchester, Corbin, Middlesboro, Pineville, Barbourville, and Burning Spring. The commission's chairman, James F. Gordon, said after the hearing that the commission would be favorably disposed towards the sale of properties composed of parties living in and serving parts of the area.

Heating Rates Cut

KENTUCKY UTILITIES COMPANY has cut its rates for customers using electricity in homes or places of business as the primary source of heat. Such users will pay only 1½ cents a kilowatt-hour for the electricity used between October and April, according to the company's vice president, W. H. Skinner.

The special low heating rate is made possible, Skinner explained, by the change in the company's peak requirements from winter to summer. Because air-conditioning loads have now made the summer peak higher than the winter peak, generation and transmission facilities can be used in winter to take care of additional heating loads. He also said widespread interest by customers in the use of electricity for house heating was instrumental in bringing about the new rate. Recent advances in electrical heating equipment and techniques, added Skinner, have increased public interest in electric house heating.

Maryland

Wins 5-cent Fare Boost

THE Baltimore Transit Company has been granted a nickel increase in its basic adult fares by the public service commission. The commission order decreed that a basic cash fare would now be 25 cents with a rate of 30 cents for special and shoppers' services. A base token rate of four for 90 cents was adopted.

The PSC denied, however, the company's petition to increase the fare for children and students from the present 10-cent level. Also voted down in a split decision, was a plan by the company to continue its present 20-cent rate in off-peak periods to encourage transit use at times other than rush hours.

The public service commission estimated that the changes it made in the proposal of the company would mean a net loss of

$72,000 to $134,000. The commission warned, in a statement offered in addition to its rate order, of the declining health of transit companies in Baltimore and elsewhere.

It said if present trends continue it foresees complete disintegration of the transit system.

Public Service Commission Approves Merger

THE Maryland Public Service Commission has approved the merger of the Elkton Gas Company into the Pennsylvania & Southern Gas Company. The commission stipulated, however, in an order authorizing the consolidation, that the parent organization must maintain separate records of its operations in the state of Maryland.

Pennsylvania & Southern currently distributes gas in Pennsylvania, although it is incorporated under the laws of Delaware. The merger would give Pennsylvania & Southern the rights, privileges, and franchises conferred upon the Elkton Gas Company by the president and commissioners of the town of Elkton and by the board of county commissioners of Cecil county.

Missouri

PSC Approves Increase

THE Missouri Public Service Commission has approved a 6 per cent rate boost amounting to about $3 million annually for Laclede Gas Company. The rate increase was granted to compensate the gas utility for higher rates it must pay to Mississippi River Fuel Corporation, Laclede's pipeline supplier.

The company estimates the higher rates will add about $2.04 to the annual cost of gas used for customers using it for cooking and water heating; and an average of $8.28 a year to those using it for space heating.

The higher rates will not raise Laclede's earnings, according to a company official. They will merely offset the higher cost of gas and additional taxes that must be paid. At present the company is earning 6.3 per cent on its net original cost. Without the rate hike, the company's rate of return would have fallen to 4.89 per cent.

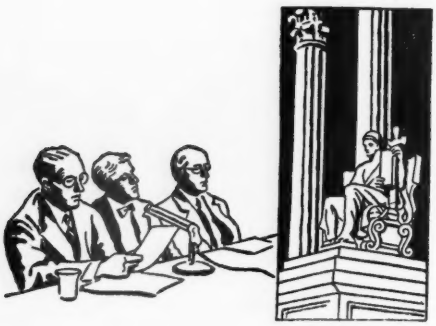
North Dakota

Supreme Court Ruling

NORTH DAKOTA'S supreme court has ruled that Otter Tail Power Company may continue to sell electric power to Standard Oil Company's microwave station near Buffalo. The case was appealed by the Cass County Electric Co-op, Inc., of Kindred and the North Dakota State Public Service Commission after Barnes County District Judge John Sad ruled against them.

The Standard microwave station signed up with Otter Tail for electric power. It was in an area served by both Otter Tail and the co-operative. The co-op petitioned the PSC for an order to halt Otter Tail service to Standard, contending Otter Tail could not extend its service without a PSC certificate. After the PSC issued a cease and desist order, Otter Tail won a reversal of the decision in the district court.

In upholding the district court, the state supreme court held that while both firms served the same area, the microwave station constituted a normal extension of Otter Tail service. And Standard, the court said, had a right to choose which electricity it wanted to buy.



Progress of Regulation

Trends and Topics

Value of Service as Affecting Rates

UNREGULATED charges for services rendered usually bear some relationship to their value. Regulated rates for public utility service, however, are governed by cost of service. But this does not mean that the value of service is entirely disregarded. The question of relating rates and return allowances to "adequacy" of service is discussed in the FORTNIGHTLY, November 24, 1955, at page 903.

Service Classifications

The Massachusetts commission, in fixing rates for the Boston Edison Company, said that rate making should not exclude consideration of the promotional, competitive, and other aspects of a utility business, although rates are ultimately based on judgments as to how costs are to be allocated (24 PUR3d 153). The commission examined rate classifications and said that the value of service criterion may be validly used within reasonable limits to promote usage, which will tend to reduce average costs and to recognize competition factors.

The Wisconsin commission said that the difference in value between gas for space heating and the same gas for other uses furnishes the logical basis for the separate classification for space-heating service. Recognition must be given to the fundamental principle of rate making that reasonable rates cannot result in charges for any service which are more than such service is worth to the customer (51 PUR NS 299).

The relative value of service as compared with like services, said the Federal Communications Commission in a case involving the Western Union Telegraph Company, is an important element to be considered in dealing with particular service classifications, although cost of service is also an important factor (64 PUR NS 216).

Area Classifications

Telephone rate making usually involves the question of service value in view of the fact that rates are fixed for various sizes of telephone exchanges.

The Washington commission, for example, observed that it is not inequitable for larger exchanges to be more profitable than smaller ones, since service in an exchange where a large number of stations can be reached without payment of a toll is more valuable than service in an exchange having only a few hundred stations (93 PUR NS 307).

In a case before the Virginia commission relating to electric rates where a question as to uniformity throughout a service area arose, it was noted that there was no evidence as to cost differentials. But it was said that cost is only one of many elements to be considered in determining the appropriateness of particular rates. The value of the service is a matter of great importance (9 PUR3d 225, 239).

Service Value as Limitation

The Connecticut commission said that rates should not exceed the value of the service to the consumer (81 PUR NS 1). The public cannot be called upon for more than the fair value of the service rendered, said the New Jersey supreme court (44 PUR NS 50). The value of service constitutes a definite limitation upon the upper level of rates, according to the Wisconsin commission (76 PUR NS 23).

Rates must not be in excess of the value of service, since otherwise a company's growth and expansion may be stopped by consumer resistance, it was said in an Idaho case (79 PUR NS 9).

The Indiana commission pointed out that if telephone rates are in excess of the value of the service received by the subscribers, then the utility finds itself in the position of pricing itself out of business, with eventual collapse of the corporate utility entity. Subscribers will ultimately suffer because of the lack of the utility's ability to render adequate and reasonable service (23 PUR3d 26, 34).

The District of Columbia commission, in passing upon a proposed increase for a transit company, considered the new rates in the light of the needs of the public and the value of the service to them (9 PUR3d 449).

Rejection of Service Value Basis

Use of a value-of-service formula as the basis of rates for interstate sales of electric energy for resale, according to the Federal Power Commission, would be against the public interest (17 PUR3d 95). The value-of-service formula, based upon arm's-length bargaining, including as a determinant the cost to the buyer of supplying substitute service, has been termed inappropriate, for it could lead only to approval of all contract rates irrespective of the public interest, contrary to the purpose of the Federal Power Act (15 PUR3d 289).

Federal courts, in reviewing rates fixed by the Federal Power Commission, have said that the value of service to users is not a reasonable rule to test reasonableness (38 PUR NS 257; 40 PUR NS 213).

The opinion of the average customer of a utility that he gets a large amount of value at a comparatively small cost to him, said a Florida court, has no bearing on the question whether rates are reasonable (90 PUR NS 166).

But the Supreme Court once declared that a rate order cannot be held invalid because it is based in part on value of service when the court does not find that the rate is confiscatory (58 PUR NS 18). A federal court, in granting an injunction against the enforcement of inadequate rates did not agree that in fixing rates the customer's ability to pay and the value of service to him are paramount and controlling. Rates so low as to be confiscatory are unconstitutional. But the worth of the service was said to be an important element for consideration (5 PUR NS 199).

Review of Current Cases

Single Rate Filing for Unitized Gas Production

SALES made by an operator of gas interests under an operating agreement with co-owners may properly be treated by the Federal Power Commission as a single jurisdictional sale of the unit production, and the contract under which such sales are made may properly be the subject of a single rate filing, and a single certificate, the federal appeals court held.

The commission thus has power to restrict rate schedule filings for gas sales from a unitized operation to the operator who has made a contract of sale for the various co-owners. Nor does the acceptance of duplicate filings by a nonoperator owner of an undivided share who is signatory to a sales contract furnish a nonoperator nonsigner any ground for complaint as to the denial of a right to file, in the absence of a showing that the classification results in an injury to him. It is the *sale* of natural gas which is affected with a public interest; it is a person engaged in the *sale* that is a natural gas company; and it is the rates which are charged for *sales* that must be filed, said the court.

Gas which was produced by or on behalf of Sun Oil Company, the petitioner in this case, was commingled with the gas of others. The company owned an undivided share of the whole. While it could have severed its share for separate sale, it did not do so. It joined with coowners in an agreement which authorized either the making of a contract of sale or ratified a contract of sale of all the gas produced but did not become a party to the sales contract.

The court ruled that the commission acted within its powers in rescinding the rate filings of Sun and also in canceling the company's certificates. The commission would be burdened with an unmanageable mass of rate filings if every person with an undivided interest in the gas production from a unit or lease operation should file, it was noted. *Sun Oil Co. v. Federal Power Commission, 256 F2d 233.*

Limited Interest Allowed on Payment for Gas And Conditional Tender Held Ineffectual

A FEDERAL district court, in "the final engagement in the 'ceaseless struggle'" between United Gas Pipe Line Company and Tyler Gas Service Com-

pany, ruled upon a question of interest on the amount which Tyler owed for gas purchases, and upon the effect of the customer's tender of payment at the contract rate. The pipeline had sought payment at increased rates filed with the Federal Power Commission. Tyler tendered payment based on contract rates, conditioned, however, on acceptance as payment in full.

Acceptance of the tendered payment would have violated Federal Power Commission regulations had the commission's order upholding scheduled rates not eventually been reversed. Acceptance would also have seriously impeded plaintiff in collecting the difference between the contract rates and the scheduled rates. The court held that such tender, so conditioned, did not stop interest. The rule, it was pointed out, is that a tender is ineffectual as such where it is coupled with a condition that it be accepted in full payment, if the creditor in good faith claims that a larger amount is due, notwithstanding that the amount tendered is ultimately held to be the correct amount.

However, the amount of interest which United could claim was limited. United had obtained an order requiring Tyler to deposit a sum of money in a bank to secure whatever judgment might be awarded for the gas deliveries. The customer was thereby deprived of the use of the fund. The pipeline could not, therefore, claim a greater rate of interest than the fund actually earned while held by the bank as security, the court ruled. *United Gas Pipe Line Co. v. Tyler Gas Service Co. 162 F Supp 496.*

Price Conditions Rejected in Certification of Gas Producer Sales in Southern Louisiana

THE Federal Power Commission has again ruled on the price aspect of public convenience and necessity in independent producer certificate proceedings, apparently subordinating this aspect to other elements of public convenience and necessity, such as the urgent need of a pipeline for large reserve supplies in a market where substantial blocks of gas are no longer available at bargain prices.

Transcontinental Gas Pipe Line Corporation proposed an extensive expansion of its system capacity and, in conjunction with two other natural gas companies, the development of underground storage fields to serve growing markets on the Atlantic seaboard. The commission approved these projects.

A number of independent producers proposed to furnish the pipeline's expanded supply requirements with approximately two billion Mcf of natural gas, to be produced in southern Louisiana and offshore areas at prices ranging from 22.4 to 23.3 cents per Mcf. In view of the interrelationship of the pipeline and producer cases, they were argued together and the commission issued one opinion to cover the entire proceedings.

Only material issues raised by exceptions to the presiding examiner's decision, which would authorize the construction and sales, or matters on which his decision had to be modified, were considered in the commission's opinion. A proposal by Transcontinental to transport 50,000 Mcf of gas per day for an electric company to be used as boiler fuel, along with a pipeline tap service, was deferred for later decision.

Price Condition Not Warranted

The examiner had found that the sales

proposed by the producers were economically feasible at the prices proposed and held that a prima facie showing had been made justifying the issuance of certificates. He concluded (citing Re Seaboard Oil Co., 23 PUR3d 1) that no sufficient evidence had been introduced to rebut the prima facie showing or to justify the imposition of a price condition, notwithstanding contentions by the commission staff and representatives of consumer interests that the initial prices should be reduced to 17 cents.

He observed that, although the proposed prices were higher than previous purchases by Transcontinental, they did not establish a new price level in the southern Louisiana area. Furthermore, assuming that the proposed prices could "trigger" existing prices so as to increase the cost of gas to Transcontinental by an asserted $5 million, no such increases could materialize without the approval of the Federal Power Commission, it was pointed out.

The commission agreed with these basic conclusions of the examiner. The public convenience and necessity—the prevalent standard in determining whether a requested authorization should be granted under § 7 (e) of the Natural Gas Act—"is not a rigid absolute of unchanging content, to be mechanically applied," the commission stated. It encompasses numerous elements which vary in importance with the circumstances of particular cases, so that one aspect of a proposal not wholly desirable, standing alone, may nevertheless be acceptable where offsetting favorable features will in sum total yield a greater public good, so long as all minimal requirements are satisfied.

Price is an element in determining public convenience and necessity in a producer certificate case, but it is only one factor, the commission declared. No evidence could be found in this case to show that the prices proposed by the producers were unreasonable. The proposed prices were considered necessary in order for Transcontinental to obtain adequate supplies of gas, and apparently the pipeline's customers recognized this need.

If a rate condition is to be imposed, the commission pointed out, there must be evidence to establish what the new rate should be. It is not sufficient to select arbitrarily some price a few cents lower than that proposed by the producer. Some rational criterion must be applied. No adequate showing for a price condition had been made.

The commission commented that an approach by which it would act as a kind of peacetime OPA, imposing a price-ceiling type of regulation would, assuming its legality, be fundamentally inconsistent with conditions prevailing in the gas-producing industry. It would also give rise to profound dislocations in the relationship of price, supply, and demand.

Cost-of-service Rate Questions

The examiner proposed to certificate the underground storage project which Transcontinental proposed to undertake in conjunction with other companies, but he would require the filing of a cost-of-service rate schedule applicable to the ten customers to be served from this facility. Transcontinental argued that a cost-of-service rate form is appropriate only in cases involving an affiliate relationship between pipeline and customers where there are very few customers, no rate zones, and only one type of service. Such a rate schedule would be unduly burdensome, it was contended, if applied to a small portion of the company's business.

The commission indicated that a cost-of-service rate form would be ill-adapted to the storage project. It permitted the

company to file a rate schedule in conventional form for the storage service, but suppporting data were required and the rate of return on the storage service, but limited to 6 per cent, which was the return allowed on the company's other properties. Particular services involving storage facilities were authorized without cost-of-service rates, though in each instance the rate of return was restricted to 6 per cent.

Dissent Urges Going Price Standard

Commissioner Connole wrote a dissenting opinion, declaring that, in view of the present acceleration in producer price increases, the commission must now as a matter of law determine in every application for an independent producer certificate whether that part of the public convenience and necessity embracing price has been satisfied. Referring to his dissent in Re Seaboard Oil Co., 23 PUR3d 1, he indicated that the commission fails in its responsibility when it does not require compliance with the statutory requirement of public convenience and necessity before permitting natural gas to enter interstate commerce at new high prices.

This does not mean that a determination of the reasonableness of producer rates must be made in every certificate case, he said, but a certificate should issue to an otherwise qualified applicant only if its proposed rates do not exceed a recognizable "threshold" or standard. Once such a threshold has been established, applicants would know at the time of entering into a contract whether they are exceeding it.

The dissenting commissioner was satisfied that no legal impediment or practical obstacle barred the use of comparable contracts as a means of measuring the going price in southern Louisiana. Commissioner Connole concurred in the authorization of the underground storage project. *Re Transcontinental Gas Pipe Line Corp. et al. Opinion No. 315, Docket Nos. G-13143 et al. September 4, 1958.*

ICC Denial of Charter Service Authority Upheld

THE U. S. district court disagreed with the contention of a contract carrier, which had been denied a permit to operate interstate charter service, that the Interstate Commerce Act requires the commission to preserve the "inherent advantages" of the respective modes of transportation, so that even though a particular type of charter bus service is adequately available by common carriers, the commission is obligated to authorize duplicate service whenever the same is tendered by contract carriers.

The court did not believe that Congress, in laying down the National Transportation Policy, meant that, notwithstanding the existence of adequate contract charter service by common carriers, the commission was still compelled to allow duplicate facilities by one who offers contract service exclusively.

When an application is made for a permit to furnish contract service in an area already served in that fashion by common carriers, the commission has the duty to determine whether the existing contract service is adequate and whether the additional proposed service will be inconsistent with the public interest and the National Transportation Policy. The commission had done just that, rejecting the application.

The district court was not at liberty to try the case de novo. The commission's findings were supported by substantial evidence, and the court would not substitute its judgment for that of the commission.

The applicant had limited itself to the transportation of children and teachers from schools within the state of Virginia. It argued next that the commission could not regulate it, since § 303(b)(9) of the act exempts from regulation motor vehicles employed solely in transporting children and teachers to and from school.

The court pointed out that the purpose of the section was to exempt casual or occasional transportation of passengers or property by motor vehicle in interstate commerce by a person not engaged in transportation by motor vehicle as a regular occupation or business. The plaintiff was regularly engaged in that occupation or business, so the exemption was not applicable to its operation.

While administrative interpretation cannot change a clear provision of the law, the court said, in a doubtful case such interpretation may assist in the interpretation of a statutory provision. The commission had consistently ruled during the past twenty years that a person engaged in transporting in intrastate commerce by motor vehicle as a regular occupation was not exempt from regulation if he undertook also casual or occasional transportation of passengers in interstate commerce. *Bass (N. E. Bass) v. United States et al. 163 F Supp 1.*

No Prohibition against Bond Redemption

THE Arkansas commission, in authorizing the issuance of bonds, besides the issuance and sale of common stock, objected to a prohibition against calling the bonds for a 10-year period. This provision, said the commission, "appears to be harsh and could be burdensome upon the company."

The interest rate was fixed at 5⅝ per cent, and the commission said that in view of the "high rate of interest" the company should be permitted to redeem the bonds at any time, with funds received from any source, at the redemption tables as set out in the indenture. The redemption tables, in the opinion of the commission, were sufficient to compensate the bondholders for any inconvenience suffered by them by reason of redemption of the company's bonds. *Re North Little Rock Water Co. Docket No. U-1342, May 7, 1958.*

Mergers Approved to Eliminate Complexities

THE Arkansas commission approved an application of Pine Bluff Water Company, Inc., Pine Bluff Corporation, and General Waterworks Corporation for approval of mergers. Pine Bluff Water Company is an Arkansas subsidiary of General. It was permitted to merge with Pine Bluff Corporation, a Delaware subsidiary of General.

Authority and approval were also granted for a simultaneous merger of Pine Bluff Corporation with General Waterworks.

Authority was also granted in connection with these mergers to issue stocks, to make assumptions of certain bonds and notes, and to create a new lien on the Pine Bluff water properties.

Consummation of the mergers and cancellation of lease arrangements of the Pine Bluff waterworks system would simplify the operation of the water system and eliminate the cost of maintaining some corporate records. This would enable General to reduce its corporate costs and expenses, including some taxes. These savings and reduction in cost would place General in a stronger financial position. Furthermore, General would be able to issue and have outstanding first mortgage and collateral trust bonds rather than collateral trust bonds. *Re Pine Bluff Water Co., Inc. et al. Docket No. U-1368, September 30, 1958.*

Telephone Rate Increase Approved after Consideration Of Capital Costs and Rate Base Items

THE North Carolina commission approved tariffs proposed by the Carolina Telephone & Telegraph Company increasing rates and regrouping some exchanges to groups with a higher rate. The new rates were calculated to yield a return of 5.76 per cent. The commission considered this adequate to enable the company to service its debt structure, attract capital, and maintain its financial integrity.

Debt Ratio

The commission found that a debt ratio of 50 per cent was appropriate for the company in view of its long stable record, the percentage growth of income available for fixed charges, the adequate coverage of fixed charges, and the company's high credit standing. With the company's debt costing 4 per cent and equity costing 7.75 per cent, the weighted overall cost of capital on a 50 per cent debt ratio would be 5.88 per cent.

The company's debt ratio has not been materially below 50 per cent in six years. During this period it has doubled its plant investment and increased the number of telephones in service by more than one-third.

It has suffered no inconvenience or embarrassment by reason of this debt ratio. Its debentures have been readily salable at attractive interest rates and its common stock has been readily salable at par and above.

Rate Base Items

The commission fixed the fair value of the company's property after giving due weight to advances in construction costs, wages, and materials and supplies, and reproduction cost new as compared with original cost. It included only those materials and supplies on which interest had not been capitalized. It eliminated plant under construction on which interest had been capitalized. Furthermore, it gave full effect to tax accruals by deducting the excess of average tax accruals over one-twelfth of operating expenses.

Alluding to the monopolistic nature of the company's business, the commission said that the public would be as adversely affected by the failure of the company to render service as it would be if rates and charges were prohibitive. Therefore, it said that it is as essential that service be rendered at rates which will justify and permit the use thereof by the public, as it is that rates be such as to enable the company under prudent management to render the service. *Re Carolina Teleph. & Teleg. Co. Docket No. P-7, Sub 88, September 4, 1958.*

No Equalization of Telephone Rates in Adjoining States

THE Washington commission refused to allow the Pacific Telephone & Telegraph Company to increase rates in its Clarkston, Washington, exchange, an area served through the company's Lewiston exchange located in Idaho. The proposed rates were designed to place Clarkston rates at the same level as the rates established for the Idaho portion of the Lewiston exchange by the Idaho commission.

The company argued that while Clarkston was geographically within the state of Washington it should take the rates established by the Idaho commission for Lewiston, in that Clarkston is merely a portion of the Lewiston exchange and not an entity capable of isolation for purposes of computing rates. The commission rejected this argument, pointing out that pursuant to its statewide theory of rate making, rates in effect in Clarkston would be appreciably higher than rates charged elsewhere in the state of Washington. For example, the proposed monthly rate for one-party residential service would be 24 per cent higher than the rate for Washington exchanges of equal station availability, and the business rate would be 51 per cent higher.

The record demonstrated that rather than allowing Clarkston rates to be based on operations of the Pacific Company in Idaho on the theory of inseparability and relative size the opposite proposition was persuasive.

The Washington commission pointed out that because Clarkston bears a higher percentage relationship to total Pacific operations in Idaho than does the entire Pacific operation in Idaho to the operations of Pacific within the state of Washington, the Idaho rates could well be predicated upon Washington operations. The total Idaho operation was but 2.2 per cent of the total Washington operation of the Pacific Company. Operationally, the company treats Idaho and Washington as a single function, with common managerial and administrative personnel, most of whom are officed in Seattle.

The commission advised that in any future statewide rate case the company should present relevant information bearing on the Clarkston operations to the end that its rates might thereafter be based upon the total operations of the company within the state of Washington.

The commission also noted that the probable return from the new rates would amount to 6.49 per cent. In an earlier decision it had found a return of 6.1 per cent to be fair, just, and reasonable for the company. *Washington Pub. Service Commission v. Pacific Teleph. & Teleg. Co. U-8993, September 10, 1958.*

Scintilla of Evidence Not Sufficient to Sustain Burden of Proof

THE Pennsylvania commission denied a telephone company's request for authority to increase rates. The proof which will meet the applicant's burden has never been precisely defined, pointed out the commission, but obviously it must amount to more than a scintilla of evidence or a plausible argument.

To discharge the burden, the applicant must present evidence not only permitting but producing the conclusion that the increased rates are reasonable. It is the duty

of the commission to reject the rates unless the proof clearly supports them.

The commission found itself unable to determine a fair rate of return because the depreciated original cost and depreciated reproduction cost estimates submitted by the company were deficient and precluded a finding of fair value. The company was held to have rested its case on insufficient approximations.

Estimate of Depreciation

For example, the company had erred in determining the composite accrued depreciation ratio. The estimate of accrued depreciation, said the commission, must be predicated upon the assumption that the most recently developed and applied annual depreciation rates were effective throughout the entire lives of the surviving elements of plant. A redetermination of the reserve requirement at any earlier date must similarly be based upon the assumption that the same revised accrual rates applied throughout the lives up to that date.

This does not mean, said the commission, that a previous estimate of accrued depreciation as at such earlier date was, when made, unreasonable or in any sense wrong. It merely means that if such earlier date is to be set as the beginning of a bring-down period the accrued depreciation at that date and the *pro forma* accruals during the bring-down period must both be consistent with the latest view. The company had erred by not conforming to the latest view.

Fair Value

The commission also found error in the company's application of the fair value to original cost ratio as a constant to time periods other than that with respect to which it was derived. A fair value to original cost ratio, said the commission, is never fixed because of the fluid nature of a variety of influencing forces. For example, plant additions and retirements change such a ratio. This is so because these changes are contingent upon the fluctuating purchasing power of the dollars of original cost and reproduction cost (trended original cost) of plant additions and retirements.

Furthermore, the fact that the company had applied the fair value to original cost ratio to an average investment of plant in service rather than to a finding of a measure of value at a specific date, constituted an error in principle in view of the commission's fixed practice of determining value as at a date certain. *Pennsylvania Pub. Utility Commission et al. v. The Bell Teleph. Co. of Pennsylvania, C. 16867, C. 16859, September 8, 1958.*

Water Rate Increase Allows for Reversion To Straight-line Depreciation

CITIZENS UTILITIES COMPANY OF CALIFORNIA has obtained authority from the California commission to increase rates for water service in its Boulder Creek district in Santa Cruz county on the basis of a 6½ per cent rate of return on a depreciated rate base. A requested return of 7½ per cent would have necessitated a rate increase of 71 per cent, according to the commission staff.

A request for authority to revise a rule pertaining to the amount of deposit required to establish credit for metered service was denied. Urging the need for additional protection against uncollectible bills, over the present provision for ad-

vance payment of annual or seasonal minimum charges, the company sought to increase the required deposit for domestic service to twice the monthly minimum charge, and for all other service an amount equal to twice the estimated average monthly bill. The commission considered the present provision adequate.

Tax Issues

In view of a commitment by the company to seek permission from the federal tax authorities to revert from the use of accelerated depreciation to the straight-line method, the commission computed income taxes on the basis of the latter method. It was pointed out, however, that should the company continue to claim accelerated depreciation in its tax returns before the commission has finally determined the general issue of accelerated depreciation, the case may be reopened for such adjustment of rates as may be found appropriate.

Citizens Utilities also committed itself respecting certain deductions which for accounting and rate-making purposes have been capitalized or charged to depreciation reserve, but which have been taken as an expense deduction for federal income tax purposes. While the commission allowed this practice, it indicated, as with the depreciation question, that in the event the company should change its policy and not take the deductions, due consideration would be given to such change in any later proceeding.

Owner's Expense Excluded

The commission declined to permit the company to amortize as an expense substantial legal and engineering costs anticipated in connection with the condemnation of company property by a county water district. The commission thought these costs were an incident of ownership and not properly chargeable to the ratepayers. On the same ground it also disallowed amounts representing the cost of rehearing and appeal in a prior rate proceeding.

Allocation of Expenses

In the allocation of other expenses between the various phases of the company's overall operations, the commission preferred the use of recorded payroll amounts for the purpose of giving weight to the number of man-hours expended in the service of interrelated corporations, departments, and districts, instead of merely using the number of employees as the company had done. *Re Citizens Utilities Co. of California, Decision No. 57177, Application No. 39674, August 14, 1958.*

Accounting Procedure Prescribed to Reflect Actual Rather than "Normalized" Taxes

ACTUAL tax liability rather than "normalized" taxes should be reflected in the accounts of a company taking accelerated depreciation, the Missouri commission ruled in authorizing a new accounting procedure for Union Electric Company.

The commission has established a policy in rate determinations of allowing, in connection with accelerated depreciation, only the actual tax liability. Union Electric pointed out that this policy does not recognize a deferral of federal income taxes as a result of accelerated depreciation and does not permit a company to include in its rates a component to pro-

vide a reserve to offset future increased taxes which may result from accelerated depreciation. The company contended that sound accounting principles require a matching of current expenses with current revenues and, accordingly, that accounting methods and practices should conform to the rate-making policies of the commission with respect to accelerated depreciation.

The company's application was granted. For properties subject to accelerated depreciation, and for accounting purposes only, the company was authorized to record in its income account only its liability for current income taxes. It was authorized to transfer the balance in its account "Reserve for Deferred Federal Income Taxes—Accelerated Depreciation," as of December 31, 1957, to its earned surplus account and to reverse all conflicting entries recorded during 1958 under a previously authorized procedure of accounting for the tax effect of accelerated depreciation. *Re Union Electric Co. Case No. 13,531, August 29, 1958.*

Television License Not Modified by Authorization Of Competitive Station

A FEDERAL court of appeals ruled that a television license was not amended, so as to entitle the holder to a hearing, by the grant of a permit for the construction of a competitive television station in the licensee's reception area. Thus a Fort Lauderdale licensee, Gerico Investment Company, operating on UHF Channel 17, lost an appeal from orders of the Federal Communications Commission authorizing the construction of a competitive station in Miami on VHF Channel 10. The court affirmed the commission's orders.

Gerico contended that its license was effectually modified by the new grant because the Miami station would seriously affect its operations economically. The court noted that Gerico's license did not contain any express or implied terms insuring financial success or protecting against economic injury.

Furthermore, Channel 10 in Miami had been duly allocated in prior proceedings in which the factors of equitable and efficient distribution of service were considered. While the allocation had not matured into actual operation of a station on Channel 10 at the time Gerico's license was issued, the commission could later find, without modifying the prior licensee's rights, that such operation was a matter of public convenience and necessity notwithstanding economic injury to Gerico. Nor was the commission bound to consider again in the instant proceeding the factors of equitable and efficient distribution of service. *Gerico Investment Co. v. Federal Communications Commission, 255 F2d 893.*

Gas Company to Apply Proposed Rates Until City Fixes Adequate Rates

KANSAS - NEBRASKA NATURAL GAS COMPANY may fix its own rates and put them into effect until such time as the city of St. Edward establishes reasonable rates under its statutory authority, the Nebraska supreme court ruled.

Although rates prescribed in a franchise ordinance granted by the city in 1950 have become inadequate and confiscatory, the city has refused to determine adequate rates. It contended that the franchise constituted a contract and the company was bound to provide service under the original schedule of rates. The franchise provided for adjustment of rates, however, subject to approval by the proper regulatory body, which is the city. At the instance of the company, the trial court perpetually enjoined the city from preventing the company's putting new rates into effect.

Scope of Injunction

Although the high court found generally for the company, it was compelled to reverse the lower court because the injunction went too far. The city should be enjoined from preventing the establishment of the proposed rates only until such time as it prescribes adequate rates. The perpetual injunction unjustifiably assumed that the company's rates were the only reasonable ones. The municipality could not thus be denied the exercise of its regulatory powers.

The power of regulation is a part of the franchise, said the court, and the fact that the delegation of regulatory power by the legislature to the city occurred after the granting of the franchise was not material. The proceeding was remanded to the lower court for appropriate limitation of the injunction.

Before the litigation in the state court there had been litigation in the federal courts, resulting in a decision in Kansas-Nebraska Nat. Gas Co. *v.* City of St. Edward (1956) 15 PUR3d 68, 234 F2d 436, holding that the federal courts did not have jurisdiction. *Kansas-Nebraska Nat. Gas Co., Inc. v. City of St. Edward et al. 91 NW2d 69.*

Unremunerative Extension Not Required Of Water Company

THE New Jersey superior court refused to require a water company to extend service at its own expense to a proposed residential development, in the face of evidence that the extension would require the company to increase its investment by 50 per cent while realizing only a 3 per cent increase in business. The financial condition of the company does not warrant such an expenditure, the court held.

The court pointed out that two New Jersey court decisions (4 PUR3d 76; 24 PUR3d 343) have established several criteria to be applied in determining the disposition of applications for extensions of utility facilities: (1) whether public convenience and necessity require an extension; (2) whether such extension is reasonable and practical; (3) the effect of the return reasonably to be anticipated from the extension of facilities upon the overall return; and (4) whether the financial condition of the utility reasonably warrants the original expenditure for the extension. It has been held, moreover, that if these criteria are met, the lack or inadequacy of profit is important only as it affects the overall return of the utility company.

Considering that the company's recent rate of return was only one-half of one per cent, the proposed extension would result in an overall operating loss. It was not an absolute certainty, moreover, that any houses would be constructed in the

area, and potential customers were apparently unwilling to undertake any binding agreement for service. The company was being asked, in effect, to take a speculative stake in the success of the development. In these circumstances it was not obliged to extend its mains. *Langan et al. v. West Keansburg Water Co. et al. 143 A2d 185.*

Interstate Ferry Not Subject to State Control

THE New Jersey commission has no authority to require the continuation of ferry service between Jersey City and New York city, the New Jersey superior court held, reversing an order of the commission. Erie Railroad Company had obtained authority from the Interstate Commerce Commission to abandon interstate passenger ferry service between the two points.

The court decided that the regulation here sought to be exercised by the state commission transcended its territorial jurisdiction within the controlling decision of the New Jersey supreme court in Pennsylvania R. Co. *v.* New Jersey Pub. Utility Comrs. (1952) 98 PUR NS 401. The decision precludes the commission from exercising jurisdiction directly to command a utility to carry on a service beyond the state line.

A contention that the commission's action was reasonably incidental to its power to regulate intrastate operations was dismissed with the observation that the service here in question involved no intrastate service at all. It was exclusively interstate. A statute purporting to give the commission authority to regulate transportation between New Jersey and other states was held to be an invalid assumption of state power to the extent that it purported to authorize the commission to transgress the territorial limitations upon state jurisdiction. *Erie R. Co. v. New Jersey et al. 143 A2d 224.*

State Investigation of Interstate Pipeline Safety

THE state, as an exercise of its police power, may regulate the operational safety of an interstate natural gas pipeline within the state borders in order to protect the interests of citizens of the state, the New Jersey commission pointed out in connection with an investigation of the pipeline of Algonquin Gas Transmission Company, following a break in the line at Riverdale, New Jersey. In response to a claim of conflict with the Natural Gas Act, the commission observed that the federal statute has not completely occupied the field and that dual regulation in this area of interstate commerce is still permissible.

Algonquin challenged the commission's authority to direct the company to give notice of a hearing on a show-cause order, both by newspaper advertisement and by direct notification to clerks of municipalities where the pipeline lies. But the commission was satisfied that it had such authority, indicating that its power to investigate and hold hearings comprehends authority to direct the giving of notice. *Re Algonquin Gas Transmission Co. Docket No. 10844, August 27, 1958.*

Other Recent Rulings

Nuclear Research Expense. The North Carolina commission, following its recent decision in Re Duke Power Co. (24 PUR3d 203), authorized Virginia Electric & Power Company to charge to miscellaneous general expenses over a period of ten years substantial contributions for the development of a nuclear reactor at Parr Shoals, South Carolina, for research and experimentation in the generation of electricity with nuclear energy. *Re Virginia Electric & Power Co. Docket E-22, Sub 41, September 4, 1958.*

Passenger Trains Unneeded. In view of meager public patronage and heavy out-of-pocket losses, the Florida commission found that two passenger trains operated by the Louisville & Nashville Railroad Company between Pensacola and the Florida-Alabama line were not needed by the public, and the company was consequently authorized to discontinue them. *Re Louisville & N. R. Co. Docket No. 5338-RR, Order No. 2636, July 10, 1958.*

Priority of Applicant Recognized. Other things being substantially equal, the Utah commission granted motor carrier authority to one of three rival applicants on the ground of the prior filing of his application. *Re Jeffries-Eaves, Inc. et al. Case Nos. 4587, 4541, 4597, July 18, 1958.*

Water Rate of Return. The Wisconsin commission fixed a rate of return at 5.5 per cent for a water company, based on a net book value rate base including current improvements. *Re City of Berlin, 2-U-5004, July 31, 1958.*

Pullman Conductor Rule. The Florida commission ordered the Pullman Company and all railroads operating within the state to comply with a previously issued order, to the extent that no sleeping car, parlor car, or chair car could be operated on any line when occupied by passengers unless continuously in charge of an employee or an authorized agent having the rank and position of Pullman conductor, provided, however, that one or more Pullman cars in the same train could be in the custody or care of a Pullman conductor. *Re Accommodation and Transportation of Passengers by Railroad, Docket No. 1274, Order No. 2659, August 5, 1958.*

Temporary Authority. The Colorado commission granted a temporary certificate authorizing the operation of passenger bus service in a city, with the holder given the option of discontinuing service upon written notice to the commission at the end of the temporary period, where the commission was reluctant to impose the burden of continued service until relieved by the commission even though it might mean operating at a financial loss and the applicant had requested temporary authority to more fully determine the feasibility of the operation. *Re Seals (Aurora Bus Line), Application No. 16478, Decision No. 50754, August 11, 1958.*

Open Agency Station. The Missouri commission permitted a railroad to discontinue service at an open agency station throughout the calendar year except for two stated periods, notwithstanding that the station had been operating at a profit, where public convenience and necessity no longer required the station to be kept open year round. *Re Missouri P. R. Co. Case No. 13,948, August 21, 1958.*

Public Convenience to Few. The New Jersey commission, in passing upon a

railroad's application for permission to discontinue stopping trains at a certain station and to remove the station building, pointed out that public convenience lies also in adequate service to the few, as well as to the many, and that where there is a lack of other adequate means of transportation, the number of the members of the public affected by a proposed discontinuance is not necessarily determinative. *Re Delaware, L. & W. R. Co. Docket No. 10481, August 14, 1958.*

Water Company Return. The New Jersey commission considered a return of 6 per cent on a water company's rate base reasonable. *Re Plainfield-Union Water Co. Docket No. 10538, August 26, 1958.*

Factors Affecting Train Abandonment. The Wisconsin commission pointed out that the essential factors to be considered in passing upon a railroad's application for authority to discontinue specific passenger trains are the present and prospective use of such service by the public, the extent of the carrier's loss on the operations involved, relation of that loss to the carrier's operations as a whole, balancing of the carrier's loss with the inconvenience and hardship to the public if the service is discontinued, and the availability and adequacy of other service. *Re Chicago, B. & Q. R. Co. 2-R-3385, August 28, 1958.*

Operating Ratio. An operating ratio of 94.90 per cent, resulting from increased fares authorized for a transit company, was considered reasonable by the California commission. *Re Fresno City Lines Inc. Decision No. 57297, Application No. 40175, September 2, 1958.*

Monopoly Charge against Telecaster. A federal appeals court held that the fact that a television operator has a lawful monopoly in a substantial area does not refute or negate a claim that the operator, which also produces film programs, has attempted to use its telecasting power to create a monopoly of the film programming business by refusing to consider scheduling film programs produced by a competitor. *Packaged Programs, Inc. v. Westinghouse Broadcasting Co., Inc. 255 F2d 708.*

Television Channel Assignment. A federal appeals court ruled that the Federal Communications Commission acted within its discretion in refusing to amend the table of television channel assignments contained in its rules and regulations by shifting Philadelphia Channel 3 to Atlantic City so as to make a VHF station available to the latter. *Mackey v. United States et al. 255 F2d 898.*

Reference to Grandfather Operation. The U. S. district court held that reference to an underlying grandfather operation is not permissible to aid in the interpretation of an Interstate Commerce Commission permit where there is no patent ambiguity. *Scott Truck Line, Inc. v. United States et al. 163 F Supp 118.*

Petroleum Products. The Texas court of civil appeals held that a commission order determining that named commodities were petroleum products was not illegal as an interpretation of a prior final order since the commodities named were petroleum products all the time, though not defined. *York Transport Co. et al. v. Texas R. Commission, 315 SW2d 313.*

Appendix

Important addresses on legal, economic, financial, and other problems, delivered before the Public Utility Law Section of the American Bar Association at Los Angeles, California, August 25-27, 1958

Some Aspects of Transportation Regulation

By the Honorable HOWARD FREAS*

When the Transportation Act of 1958 became law on August 12, 1958, there was struck a new balance in federal-state relationships in the regulation of surface transportation. While that act deals with other important subjects; I propose to limit myself to those provisions which deal with the power of the Interstate Commerce Commission to regulate intrastate rail rates, and for the first time empower the commission to authorize railroads to discontinue particular services (as distinguished from total abandonment of lines of railroads).

The new act reminds us again that the delicate task of balancing national needs against local interests is never-ending in our federal system. The Constitution provides that "The Congress shall have power . . . to regulate commerce with foreign nations and among the several states." Through the years, it has been settled by the courts that Congress may regulate not only interstate commerce but also those aspects of intrastate commerce which are inextricably intertwined with interstate commerce. But in the regulation of surface transportation, Congress has been slow to exercise the full reach of this power to regulate commerce. It has acted to expand federal regulation to the exclusion of state power only step by step as it was convinced of the need for national control. Thus, the Supreme Court's 1886 decision in the Wabash[1] case that states could not regulate rates on interstate shipments, was one of the spurs to the enactment of the original Interstate Commerce Act of 1887. Again, that court's 1925 decision in Buck *v.* Kuykendall[2] made clear that only the federal government could regulate interstate motor carrier competition through certificates of public convenience and necessity.

The original Interstate Commerce Act of 1887 was primarily directed at the elimination of discriminatory and unreasonable rates. Both the Hepburn Act of 1906[3] and the Mann-Elkins Act of 1910,[4] while reinforcing the basic act, adhered to this primary objective.

Particularly pertinent to future developments was the famous Shreveport case[5] in which the Supreme Court held that rate discrimination between intrastate shipments and interstate shipments violated the antidiscrimination provisions of the Interstate Commerce Act. Here was clear recognition that certain aspects of intrastate transportation require regulation by the national government.

It is well known that the transportation difficulties in World War I and the financial condition of the railroads following the period of federal operation, led to a major change of course in the Transportation Act of 1920. It is enough to repeat now that the new emphasis was not on the prevention of abuses, but to place upon the commission affirmative responsibility for the development of an adequate national transportation system.

*Chairman, Interstate Commerce Commission, Washington, D. C.

[1] Wabash, St. L. & P. R. Co. *v.* Illinois (1886) 118 US 557.

[2] 267 US 307, PUR1925C 483.

[3] 34 Stat 584.

[4] 36 Stat 539.

[5] (1914) 234 US 342.

APPENDIX

THE 1920 act, as modified by the Transportation Act of 1940, modified the division of responsibility and power between federal and state governments in four major respects:

(1) With a view to preserving and enhancing the credit of the railroads, it gave to the Interstate Commerce Commission exclusive control over issues of securities by railroads.[6] As evidence of the need for such single control of railroad capital structures, it is interesting to note that President Thelen of the railroad commission of California was a leading proponent of this change.[7]

(2) The Interstate Commerce Commission was given exclusive power to authorize railroad unifications, without regard to the limitations and restrictions of state and municipal law.[8] This power was an incident to the broader congressional policy from 1920 of permitting railroad unifications as a route to economy and efficiency.

(3) The commission was given jurisdiction to control, in terms of public convenience and necessity, the construction, extension, and abandonment of lines by interstate railroads. Significantly for the future, this jurisdiction over abandonments was held by both the commission and the courts to be limited to the total abandonment of a line of railroad (as distinguished, for example, from a partial discontinuance of service, such as passenger service which remained subject to state regulation).

(4) The commission was empowered for the first time, in what is now § 13 of the Interstate Commerce Act, to prescribe intrastate rates for the purposes of eliminating (a) discrimination between intrastate shippers and localities, on the one hand, and shippers and localities in interstate commerce, on the other, and (b) undue discrimination against interstate commerce.

UNDER the 1920 legislation, the Interstate Commerce Commission had exclusive jurisdiction over railroad capital structures and unifications. On the other hand, control of service and of intrastate rates was divided between federal and state authority.

The principal interplay between federal and state power occurred in the area of intrastate rates under § 13. At the outset it was widely regarded as a unique opportunity for federal-state co-operative effort. In fact, there was fruitful collaboration.[9] Nevertheless, many people have been disappointed that there was not more. I refer to this aspect because I shall be pointing out that the new act also evokes co-operation and understanding between federal and state commissions.

The amendments of 1935, 1940, and 1942 which subjected to federal regulation interstate motor and water carriers and freight forwarders, created no novel federal-state relationships other than that of providing for the use of joint state boards in handling certain motor carrier matters. The commission's exclusive powers over security issues and carrier unifications were made applicable to motor carriers, but § 13 was not made applicable to the intrastate charges of motor or water carriers or of freight forwarders.

I SHALL lightly pass over some of the provisions of the Transportation Act of 1958. It charges the commission with administration of a program of federally guaranteed loans to railroads in an amount not to exceed $500 million. It stabilizes the definition of agricultural commodities whose transportation is exempt from motor carrier economic regulation, and rolls back some recent court decisions which had given a very broad scope to that exemption. It undertakes to clarify the rule of rate making in § 15a. And it sharpens the definition of private carriage.

In addition, however, the 1958 act deals significantly with federal-state relationships by adding to the Interstate Commerce Act a new § 13a and by amending § 13(4).

The new § 13a for the first time empowers the Interstate Commerce Commission to authorize interstate railroads to discontinue or change the operation or service of any train or ferry (that is, a partial discontinuance of service as distinguished from total abandonment) operated in either interstate or foreign commerce. The legislative history of the new act makes it clear that in vesting such power in the commission, the Congress was motivated primarily by the huge and continuing

[6] 41 Stat 494, 49 USC 20a.

[7] 1919 Hearings before the Senate Committee on Interstate Commerce, entitled "Extension of Tenure of Government Control of Railroads," Vol. 3, p. 1395.

[8] 49 USC 5.

[9] II Sharfman, "The Interstate Commerce Commission" (1931) p. 307.

deficit which the railroads incur in their passenger service.

SECTION 13a provides two procedures. One applies where a railroad proposes to discontinue or change a train or ferry operating from a point in one state to a point in another state; the other where it is proposed to discontinue or change a train or ferry operated solely within a single state.

The statutory procedure for discontinuance or change of what I shall refer to as interstate services is obviously patterned upon the rate suspension procedure of § 15(7). Thus, the railroad may file with the commission (and must mail to the governor of each state in which the particular service is operated) a notice at least thirty days in advance of such discontinuance or change. When such a notice is filed, the commission either upon complaint or on its own motion may within the 30-day period institute an investigation of the proposed discontinuance or change. If the commission institutes such an investigation, it may also, by serving an order upon the railroad at least ten days prior to the date on which the proposed discontinuance or change would take effect, require the service to be continued in whole or in part pending hearing and decision. The required continuance may not be for more than four months, regardless of whether the investigation is completed in such four-month period.

IT will be noted that the commission is not required either to investigate or to compel continuance of service. If the commission takes no action during the 30-day period, the railroad may discontinue or change the service in accordance with its notice. If within the 30-day period the commission institutes an investigation, with or without requiring interim maintenance of service, it may order the railroad to continue or restore the service if it "finds that the operation or service of such train or ferry is required by public convenience and necessity and will not unduly burden interstate or foreign commerce."

The procedure prescribed by new § 13a for discontinuance or change of what I shall refer to as intrastate rail services is entirely different. It is essentially the same application procedure as § 1(18) and (19) provides for authorization of the total abandonment of a line of railroad. This application procedure is essentially appellate. It may be invoked by a railroad where discontinuance or change of the operation or service of any of its intrastate trains or ferries

> is prohibited by the Constitution or statutes of any state or where the state authority having jurisdiction thereof shall have denied an application or petition duly filed with it by said carrier or carriers for authority to discontinue or change, in whole or in part, the operation or service of any such train or ferry or shall not have acted finally on such an application or petition within one hundred and twenty days from the presentation thereof . . .

IN such cases, in contrast with the prescribed procedure on notices of discontinuance or change of interstate services, the commission holds a hearing in the state involved and may authorize discontinuance or change of such intrastate service only if it finds that

> (a) the present or future public convenience and necessity permit of such discontinuance or change, in whole or in part, of the operation or service of such train or ferry, and (b) the continued operation or service of such train or ferry without discontinuance or change, in whole or in part, will constitute an unjust and undue burden upon the interstate operations of such carrier or carriers or upon interstate commerce.

The Interstate Commerce Commission is determined to exercise responsibly its new powers to authorize discontinuance or change of particular rail services. However, I particularly call your attention to the tight procedural timetable which begins when a railroad files a notice of discontinuance or change of an interstate service. It need not give more than thirty days' notice. During that period, the commission must decide whether to investigate. Since the commission, if it is to require maintenance of service pending its investigation, must so order at least ten days prior to the effective date of the proposed discontinuance or change, it will, as a practical matter, have only twenty calendar days in which to decide whether to act.

Now the commission can decide responsibly whether to let the discontinuance or change take effect, or whether to investigate or whether to suspend the discontinuance or change, only if it has some facts. In that connection, the commission has prescribed regulations governing "Discontinuance or Change of Operation or Service." These regulations provide that the required notices (as well as applications as to intrastate service) be accompanied and supported by specified information as to precise service involved, other available common carrier service, the public's use of the service, and the financial results of operating the service. Railroads filing such notices must comply fully with these information requirements or take the risk that in case of doubt the commission will require continuance of the service pending investigation.

I wish to emphasize that in considering whether to investigate or to suspend such proposed discontinuances or changes in interstate rail services, the commission will welcome information from the state commissions, local governments, and other interested persons. But the crucial point is that the commission must receive such information promptly if it is to take it into account.

Similarly, where the commission enters upon an investigation of a proposed discontinuance or change of the operation of an interstate rail service, it may only require continuance thereof for a maximum period of four months. Thus, if the commission's hearing and decision require more than four months, as complicated and controversial cases often do, it would be possible for the railroad to put into effect a discontinuance or change of service which later the commission would order restored. It seems to me that this would be disrupting both to the railroad involved and to the public which uses the particular rail service.

However, I believe that such disruption can be largely avoided if the commission can enlist the co-operation of both the railroads and of the public bodies and other persons who may be opposed to such discontinuances or changes. Where a railroad is proposing a significant discontinuance or change in service which obviously requires an extensive investigation and the commission acts expeditiously, I believe that the carrier should give serious consideration to postponing the exercise of its right to put the proposal into effect upon the expiration of the four-month period.

Similarly, considering the remedial and urgent purposes of this legislation, I believe that objectors should make every effort to assist the commission in expediting the investigation and decision of these service questions.

While the 1958 act amends § 13(4) in several respects, the most important change relates to revenue discrimination against interstate commerce as a basis for the Interstate Commerce Commission prescribing intrastate rates. This particular amendment provides that the commission may find such revenue discrimination "without a separation of interstate and intrastate property, revenues, and expenses, and without considering in totality the operations or results thereof of any carrier, or group, or groups of carriers wholly within any state . . ."

The intended result of this amendment is to abrogate the recent decisions of the Supreme Court in the so-called Milwaukee[10] and Utah cases.[11] In the Milwaukee case, the court set aside an order of the commission prescribing higher commuter fares for the Milwaukee, upon the ground that the commission had failed to take into account the railroad's other intrastate revenues, freight and passenger, from Illinois traffic. And the court suggested, if it did not hold, that if the railroad's total revenues from Illinois intrastate revenues constituted a fair proportionate share of the total revenues required by the railroad, the state authorities could determine which intrastate rail services should be subsidized by the other intrastate services. In the Utah case, the court not only held that in considering intrastate freight rates under § 13 the commission must take into account the results of intrastate passenger operations, but also, in practical effect, that there must be a separation of the intrastate costs and revenues from the results of the railroad's interstate operations.

[10] Chicago, M. St. P. & P. R. Co. *v.* Illinois (1958) 356 US 906, 23 PUR3d 368.

[11] Utah Pub. Service Commission *v.* United States (1958) 356 US 421, 24 PUR3d 113.

It is worth noting that another amendment to § 13(4) treats significantly with federal-state relationships. Thus, that subsection is amended to provide that when a railroad files a petition challenging intrastate rail rates as violative of § 13,

> the commission shall forthwith institute an investigation . . . (whether or not theretofore considered by any state agency or authority and without regard to the pendency before any state agency or authority of any proceeding relating thereto) and shall give special expedition to the hearing and decision therein.

The purpose of this amendment is stated bluntly in the report of the Conference Committee[12] as follows:

> The purpose of this proviso is to avoid the delays which now ensue by reason of the practice generally on the part of the carriers of awaiting final action by the state authorities prior to filing a petition with this commission for an investigation under § 13(3). This has been the general practice, except where action on the part of the state authorities has been unduly delayed. The commission also as a matter of comity has felt that it was undesirable to intervene while a matter is before a state commission and it has discouraged the filing with it of petitions in those circumstances. These practices have resulted in delays in removing discriminations against and burdens upon interstate commerce. The effect of this amendment would be to require the commission to proceed promptly to a determination of such matters, regardless of the pendency of any proceedings before a state commission.

It is clear that Congress has commanded the commission to abandon its comity policy of withholding its hand pending action by state commissions. Obviously, the commission must comply with this mandate of Congress. At the same time, I wish to emphasize that the commission will need and welcome facts and views from the state regulatory bodies. I still believe that we can do much together in the public interest we all serve.

FINALLY, I should like to comment briefly upon the regulatory aspects of the imminent admission of Alaska as our forty-ninth state. The Interstate Commerce Commission is already planning to establish in Alaska a field office which will report directly to the commission in Washington. In the absence of specific grandfather legislation, the immediate task is to prevent any interruption in motor carrier and freight forwarder service when Alaskan transportation becomes subject to the Interstate Commerce Act. We are confident that this can be done by appropriate orders (including the grant of temporary authorities pending the determination of permanent service applications). At the same time, we shall not hesitate to recommend to the Congress any legislation which may be needed for an orderly initial application of the act.

Also, we believe that this transition will be eased by a program of explaining the regulatory requirements to Alaskan carriers and shippers in advance of actual statehood. We are already preparing a special bulletin for this purpose.

IN conclusion, may I suggest that the new tasks which Congress has given to the commission, together with the adjustment of the whole regulatory pattern to the unique transportation needs of Alaska, are sufficient proof that the problems of regulation have not yet become so routine that they can be judicialized and transferred to the courts.

[12] House Report No. 2274, 85th Congress, 2nd Session (1928), p. 12.

Some Aspects of Utility Regulation in California

BY THE HONORABLE PETER E. MITCHELL*

AT the outset, I wish to make it perfectly clear that the opinions or views which I may express are my own and are not to be understood as necessarily being the official opinions or views of the public utilities commission of California, of which I am a mem-

*Member, California Public Utilities Commission, San Francisco, California.

ber. Being a lay person, I shall not undertake to engage in legal esotericism, as I well know you are far more familiar with that sort of thing than I am.

I do want you to know that I am deeply honored by your invitation to speak to you today.

The broad powers conferred upon the California Public Utilities Commission are matched, or more than matched, by the complex problems which continue to confront that body year after year. It might appear that having functioned under relatively stable statutes since 1912, the commission would long since have developed practices and precedents which would provide the answer to most problems that might arise. That would be to forget the complexities of the field, magnified by the vast development of our state, its continually surging population growth, its transition from an agricultural commonwealth to one of the giants among industrial states, and the changes which come from technological advances. Changes in the economy and way of life continually bring new problems. Solutions to the problems presented must be practical as well as legal. That commission decisions in intricate proceedings may be understood and favorably received by the "Court of Public Opinion" is also important.

THE scope of the commission's activities cannot be told adequately merely by reviewing the history of the law and a citation of commission decisions. Every week brings a new question to be decided and almost every application, every investigation by the commission, and every formal complaint case, presents circumstances peculiar to that proceeding.

The state Constitution confers upon the commission administrative, legislative, and judicial powers. The legislature may not reduce these powers, but its authority is plenary to add to the duties of the commission and to extend its authority in line with the Constitution. Further, the legislative intent regarding the status of the commission is evidenced by the provision in the Public Utilities Act that court review of its decisions may be made only by the California supreme court and only on very limited grounds.

It should be noted also that "The review shall not be extended further than to determine whether the commission has regularly pursued its authority, including a determination of whether the order or decision under review violates any right of the petitioner under the Constitution of the United States or the state of California. The findings and conclusions of the commission on questions of fact shall be final and shall not be subject to review; such questions of fact shall include ultimate facts and the findings and conclusions of the commission on reasonableness and discrimination." (California Public Utilities Code § 1757 (1956).) Unlike the federal commissions and many state commissions, no rate increase can go into effect until approved by the commission. There are no provisions in California law for the posting of bonds or for automatic action thirty or sixty days after filing.

THE commission's chief counsel, Everett C. McKeage, a recognized authority on state regulatory law, has called the California regulatory body the most powerful such commission in the United States.

Its multiple duties make the commission a hybrid agency, which exercises powers of both the legislative and judicial branches of government. When it conducts hearings in reparation or condemnation proceedings or on contempt cases it acts in a purely judicial capacity. When it determines rates to be charged for the services of a utility, or when it investigates the safety provided or services performed it acts in a legislative capacity.

Regulation by the federal government of interstate utilities and transportation companies is the duty of the Interstate Commerce Commission, the Federal Power Commission, the Federal Communications Commission, and the Civil Aeronautics Board. In California the public utilities commission performs at the state level many of the combined duties of all of these agencies, and in addition regulates other types of activity, as, for example, water companies, wharfingers, and steam heat companies, not subject to jurisdiction of these federal agencies. It regulates the fares, service, and safety of railroads, buses, and trucks, as does the ICC. It oversees the rates, service, and safety of gas and electric companies, thus performing functions comparable to those of the FPC. Its duties with regard to telephone and telegraph are similar to those of the FCC. Under the California

Constitution it has jurisdiction over intrastate fares of airlines. And it must make whatever investigation is necessary and give its approval before any regulated enterprise under the Public Utilities Act may issue any evidence of indebtedness.

THE extensive mandate given to the public utilities commission by the state Constitution and by the legislature has been dwelt upon, not for the purpose of showing its power but to outline the scope of its duties and responsibilities. Only when the many facets of the commission's regulatory authority are known is it possible to comprehend the multiple problems with which it is confronted. And only when these problems are understood, at least to some extent, can the work of the commission be understood and evaluated.

I would like to discuss many of these regulatory problems with you because undoubtedly every experienced practitioner in the utility field, such as I know you are, is intimately familiar with the practical consequences of these problems. However, because my time is limited, I would like to address myself to three broad general principles of public utility regulation and policy which, although national in scope, have particular significance to California.

The approach to the regulatory problem is all-important. We must keep ever in mind the fundamental principles involved.

I believe it can be safely said that, in effect, a public utility discharges a public trust and that it performs a function of the state. (Smyth *v.* Ames (1898) 169 US 466, 544.) In other words, a public utility performs a necessary function which would be performed by the state were it not that private capital is permitted to engage in that type of endeavor. As I understand it, such status is the justification for the regulation imposed upon public utilities. When one seeks to enjoy the status of a public utility, he is asking a privilege to be granted by public authority. Therefore, public utilities occupy a privileged position and in return submission to regulation by public authority follows as night the day.

THESE cardinal principles applicable to the regulation of public utilities must ever be kept in mind. Those of us who are engaged in regulation of public utilities sometimes become so preoccupied with the pressing necessities of meeting the day-to-day problems that we forget or momentarily overlook those cardinal principles and thus fall into error. If we do this, the courts usually remind us of our temporary lapse by a resounding reversal of our decisions.

I am fully aware that there are varying philosophies with regard to regulation of public utilities; that reasonable men honestly may differ. There is a zone of reasonableness within which the regulator may operate, and if he keeps within that zone there is not much to fear from judicial interposition. It is within this zone of reasonableness that philosophies regarding regulation may differ, with the ultimate result oftentimes amounting to millions of dollars, one way or the other, as applied to the bill of the ratepayer.

Many years ago Thomas Jefferson pointed out that a constitution might become outdated or become inadequate because of changed circumstances and the passing of time. He said that the coat which fit a boy in his teens would not be adequate for that same boy when he became a man. Thus, he reasoned that the federal Constitution, necessarily, must be amended from time to time to meet the exigencies of the march of time and circumstance.

IN this vein, I wish to pose the following question: Is regulation, as applied to public utilities, adequate and efficient today? We well may ask has regulation kept pace with our dynamic economy and industrial life? Does regulation fully serve the public interest?

In the state of California, the fundamental law now applicable to the regulation of public utilities came into being during the reforms of Governor Hiram W. Johnson in 1911-12. At this time there was no TV, no radio, a few thousand telephones, instead of more than five million. A horse and wagon were less a novelty than an automobile. So far as the fundamental concept of regulation is concerned, it is substantially the same today as it was then. When we reflect upon the tremendous changes in our society and economy since that day, it would not be unreasonable to inquire whether regulation of public utilities has kept pace with these changes. I am not saying that regulation of

utilities today is inadequate. What I am saying is that, in my opinion, it is time that fundamental studies by appropriate authorities be made to determine whether or not that governmental process is fully serving the public interest.

Time will not permit me to go into detail, but I do suggest that inquiries into this subject would be timely and in the public interest. Such inquiries should be absolutely objective and free from partisan political interference. No attempt to grind axes should be allowed to intrude itself into such an inquiry. The one and only ultimate objective would be to determine whether public utility regulation as now administered is adequately serving the public interest. Necessarily, such inquiries should be comprehensive and all-embracing.

NEXT, I would like to discuss the matter of the rate of return. As attorneys engaged in the practice of public utility regulatory law, you are aware that the economic ultimate in regulation is the rate of return which the utility is permitted to earn. The rates prescribed to support such rate of return are all-important to the ratepayer.

Today, during an inflationary cycle, with the costs of all services rising, the ratepayer is giving added attention to those increasing prices which he has an opportunity to oppose.

The many years of rising prices also bring presentations by utility advocates, which declare a definite need for higher percentages of profit.

These facts of economic life produce argument and contention which, like the solutions they seek, are not susceptible to final, inflexible settlement. Bearing in mind that rate fixing is a pragmatic and practical process and that there is a zone of reasonableness within which commissions may operate, it inevitably follows that the rate of return cannot be a fixed percentage which is the same for all utilities. Much as we may desire resolution in this field of public utility regulation, history and the facts of life demonstrate that there must be flexibility and never-ending argument over what a proper rate of return shall be.

THERE are those who contend that the utility is entitled to a generous rate of return and others who reply that generosity may not be engaged in by regulatory authorities. The law says that the return which a utility is entitled to the opportunity to earn must be reasonable, but candid minds may not agree on what is reasonable. I do believe that the safe standard to which the regulatory authority should cling is that standard which maintains that a public utility is not entitled to enjoy the profits which speculative or unregulated businesses may enjoy. This is a generalization, but I believe it to be a safe rule to follow. We know that a public utility is protected against many of the hazards to which the unregulated business is subject. The utility has a right to call upon governmental authority to increase its rates, which is little different than taxation. The privileged and sheltered position of a public utility, under regulation, carries with it a corresponding obligation to the public.

A public utility is not free to deal at arm's length with its customers and the rule of the market place may not be employed by a public utility in its operations. Therefore, it must follow that a public utility may not lawfully demand the application of the same rules to its operations as those applicable to an unregulated business. Having undertaken to serve the public and having acquired the status that entitles it to enjoy the extraordinary privileges available to it, a public utility may not also claim that it is entitled to the speculative profits to which the unregulated business is entitled.

I THINK it is fair to state that a public utility is in somewhat the same category as individuals who engage in professions impressed with the public interest—such as lawyers, physicians and surgeons, and other professional men. What might be lawful and ethical for an unregulated business would be unlawful for a public utility. The privilege which a utility is granted by public authority carries with it concomitant obligations with which unregulated businesses are not burdened. Regulators must never forget that a public utility operation is impressed with the public interest; otherwise, such operation would not be that of a public utility.

Being a state regulator, I am very sensitive to federal encroachment. It is a cardinal principle of our dual system of government that the Constitution of the United States is as concerned with the preservation of the

states and their governments as it is in the preservation of the federal Union and the central government. Surely, no student of history or of constitutional law would undertake to deny the foregoing basic principle. However, in practice history regrettably reflects the fact that all doubt has been resolved in favor of national power as against state authority. I do not say that this has happened in every case, but what I do say is that, as a general pattern, that is what has been happening since the birth of the nation. From the beginning, there has been a definite, inexorable, and accelerating tendency on the part of both the Congress of the United States and the Supreme Court to aggrandize federal authority at the expense of state jurisdiction. Equally, it can be said that the executive branch has followed the same tendency.

It does seem passing strange that these inroads upon state authority have been accomplished by those who are citizens of the several states and should be impressed with the necessity for maintaining our constitutional dualism. We must not unbalance that dualism by a gradual destruction of state authority through centralization of governmental power in Washington.

In the field of public utility regulation, where we are faced with the interstate operations of public utilities, this subject of federal encroachment is ever present and ever increasing.

While no one may reasonably contend that our constitutional dualism does not require patience, tolerance, and farsighted statesmanship in order to successfully operate such a system, nevertheless, I do contend that the constitutional rights and powers of the several states, to a large extent, have been brushed aside and ignored by those who should have restrained rather than aggrandized federal jurisdiction. The history of regulation abounds with evidence to support the view which I am here expressing.

As the situation now stands, there would appear to be no area into which federal authority may not intrude. Surely it must have been the intention of the Founding Fathers that there be areas in which federal authority may not interpose its power. As a matter of fact, in actual practice, state authority in many fields operates subject to a veto power by the central government. For my part, I would prefer that the national authority exclusively exert its jurisdiction in such fields rather than to hold a veto power, for the simple reason that such a situation degrades and debases state authority. It renders it a joke in the eyes of the people.

In conclusion, I desire to express to you again my appreciation for the opportunity to appear before you. I would like to leave with you the thought that the way of the regulator is hard. Rarely, if ever, may he enjoy that happy status of rendering a decision which is pleasing both to the utility and to its ratepayers. However, our commission is always pleased by the competent and honest advocacy for which you gentlemen are responsible.

Some Aspects of Telephone Regulation

By the Honorable GEORGE R. PERRINE*

Ladies and gentlemen of the Publc Utility Law Section of the American Bar. To deliver a discussion before so well an informed group is difficult. To say something that you do not already know is probably more difficult. With that foreword allow me to commence.

Some thirty years ago this fall a then eminent statesman who was seeking election to the office of President of the United States made a prophecy in one of his speeches which has since been bantered around a great deal. His statement was: "There will be two chickens in every pot and two cars in every garage." Some four years ago in a speech of mine I said and I quote from that talk: "The advance of our social order in this country during this century has changed the entire perspective and outlook of our people. The telephone is no longer considered a luxury by most of us, but is now looked upon as a

*Chairman, Illinois Commerce Commission, Springfield, Illinois.

necessity. In fact, many of my friends who have teen-age children, already have installed a second line with an unlisted number in order to get their personal calls completed. This field of selling is certainly in its infancy but should definitely be considered as a source of future business when and if the present-day expansion cycle finally catches up with demand." Still quoting: "It is highly possible that in the not too distant future the second telephone line will be considered as essential to the American home as the second car in the garage." End of quote.

In order to bring my thinking up to date, I inquired of the Illinois Bell the extent of dual line installations in homes. In 1954 in the Chicago area of the Bell system there were approximately 200 such installations. Today there are in the neighborhood of 5,000. Remember this increase, while small in proportion to total installations, has occurred during a time when private lines have been difficult to secure for residential use and certainly the company has not been out selling this feature.

Oh, well, it has taken Mr. Hoover some thirty years to prove his point.

In an attempt to stay within the allotted time and still make a few observations that I think cogent, I have narrowed this paper to three different phases of telephone problems that confront the Illinois Commerce Commission and I am sure must be equally complexing to other state regulatory bodies. First, let me discuss the impact of the average RTA financing and the resultant factors upon regulation. Secondly, I will discuss the extended area calling problems as they affect us in Illinois; and, lastly, I wish to touch upon the subject of metered service charges as the possible answer to telephone rate problems.

In the state of Illinois we have approximately 300 telephone companies. Over 100 of these are subject to our regulation. The remaining are small co-operatives and switcher lines not subject to any regulation and in the most part rendering poor service. For purpose of classification, the commission has divided the companies under our jurisdiction into three major groups: "A" companies have over 5,000 stations; "B" companies have over 1,000 stations; and "C" companies are all under 1,000 stations. We shall not concern ourselves so much in this discussion with the class "A" companies. However, in the "B" and "C" companies we find the problem I wish to emphasize. Most of these companies service small communities and to a great extent rural areas. Have grown up with the industry, but usually with no rate structure, no planning, no adequate bookkeeping, and with a minimum amount of management.

For years the type of service rendered by these companies was more or less acceptable to their customers. To be sure, all of the subscribers were not satisfied but generally speaking no great fuss was made about the service—and, in particular, no great number of complaints were registered with the commission.

However, with the conclusion of World War II the whole attitude of Americans suddenly changed. The standard of living reached an all-time peak and the employment and salaries were keeping pace. The whole nation had more or less been on the move. Young Americans from small communities had been indoctrinated and exposed to all the advantages and complexities that highly congested city and urban life had to offer. Returning to their homes in these smaller communities they were not satisfied with the tempo and type of services there offered.

One of the first to feel the impact of this call for modernization was the telephone industry. Modern youth was on the move again. This time at home. He and she were demanding more perfect living. No longer could the poorly operated companies get by with the type of service they had been offering.

But where and how were they to get the necessary financing to purchase the necessary new plant? All too often the small telephone company had been a family-owned affair and furnished that family its living. With little or no thought to the future of the business, these small companies had existed in the community, rendering a minimum service. Our commission engineers, who have observed these companies for many years, tell me that much of the plant is worthless. Our accountants tell me that the bookkeeping is equally bad.

WHAT happens? An enterprising person approaches the president of the company and starts to dicker for the purchase of his company. The sale is negotiated and finally consummated. While this is going on this same person, or his representatives, is making contacts in the community promising a modern new plant and modern service. The framework for the modern Cadillac for the smaller community has already been laid before the regulatory body is ever contacted. However, one of the requirements of the RTA is that where a company is subject to commission regulation, prior approval of the loan must be secured from the commission before the loan is granted.

When the commission starts its study of the application we usually find that the new owner has purchased the stock of the company at the book value. We also find that the engineers, who have been employed by the new owner and who are completely familiar with RTA requirements, have recommended practically 100 per cent replacement of the old plant. What actually has happened is that the new owner purchased only the service territory from the former owner and plans to install a completely new modern dial plant to handle the wants of this small community. Our commission has been presented with prospectus for our approval where the required new financing figured as high as $750 per station for new plant. Compare this with the Bell or the General Telephone system costs in Illinois, which are approximately $400 per station, and you readily can foresee the future.

ONCE the commission has given its approval to the loan, then it becomes our legal duty to give to that company rates that will produce a reasonable rate of return on the invested capital. Now is when Johnny Q. Public in the small community first realizes that he did not subscribe for a Ford or Chevrolet but has inherited a nice new Cadillac. Little did the average resident realize that his rates for service would have to be more than doubled.

One in the regulatory field must not place all the blame for this situation on the RTA. After all that organization is set up by the Congress and is loaning your money and mine to these several companies. It is their job to make these loans so they are collectible and have long-term collateral to back up the long-term refunding. I do think that in many instances the requirements for new plant are exaggerated beyond the need. I am also convinced that many enterprising people are using the authority for personal gain rather than entirely for the public good. All too frequently the engineering costs and legal fees are far out of proportion to the work done.

We must not be too critical of companies like Illinois Bell or General Telephone when they hesitate to go into these smaller territories. The managements of these companies are thoroughly aware of what has to be done to rehabilitate these small plants. They are also aware that they too must earn a rate of return upon the new plant in order to justify the investment.

I do believe, however, that these larger companies are likely to acquire the old company at a cost more commensurate with its worth than the person who is anxious to get into the business for personal gain. Also, the larger companies are apt to replace less of the existing plant in modernization programs than is required under the RTA regulations. For these reasons and others, commissions should look with favor upon the class "A" companies acquiring the smaller ones.

IN the final analysis, we cannot be too critical of the people living in these smaller communities for wanting modern telephone service. Actually, homes in our rural communities today are for the most part as modern as those found in our large urban centers. The rural resident knows what he wants. He will have to be taught that the service costs more and why.

We, on the Illinois commission, have taken steps to prevent future trouble in regard to these matters. We have notified all "B" and "C" companies by letter to the effect that future modernization programs and RTA financing must be first discussed with our chief engineer before publicizing the plans locally. It is our intention to evaluate to the extent possible the amount of financing that will be required and what the approximate future rates will be in order to give the necessary return. We then intend to canvass by post card, return card requested, so that the subscribers affected will know in advance the entire picture. The commission can then

better determine the demand for such service in advance. It is not our intention nor desire to stultify modernization programs. We just think that it makes for a healthier service climate if all parties are completely informed.

As I have heretofore mentioned, there are about a hundred telephone companies in Illinois under the regulation of our commission. One of our current objectives is to get as much consistency as we can in the various rates charged by all of those different companies, considering at the same time their varying revenue requirements. Those of you who have had experience in the telephone business will recognize at once that that is much easier said than done. Nevertheless, our commission is working on it.

As you know, the generally accepted principles for telephone *rate making* call for classifying exchanges into groups on the basis of the number of telephones which can be called without payment of any toll charge. Ordinarily, the smallest exchanges have the lowest monthly rates and the largest exchanges the highest. Although this is the system generally followed in Illinois, there are numerous differences in the monthly rates in similar cities.

One of the simplest forms of difference is illustrated by the rates for local area service in two Chicago suburbs, Wilmette and Arlington Heights, Illinois. Each of these rates provides access to about the same number of telephones (local area service in Wilmette covers Wilmette and Winnetka for 15,134 stations; local area service in Arlington Heights covers Arlington Heights and Wheeling for 19,476 stations; in each case metropolitan subscribers get more stations and pay more). Both exchanges are operated by the same telephone company (Illinois Bell). But in the smaller exchange (Wilmette) the one-party local area service business rate is now $10.50 and in the other it is $8.25. Smaller differences exist in the residential rates in the two cities. Years ago, these differences were entirely reasonable. The Wilmette exchange was then considerably larger than Arlington Heights. Both exchanges have been growing, but in the last few years Arlington Heights has grown much faster. Now it has grown out of its original rate group altogether.

Similarly, the Chicago Heights exchange includes the fast-growing subdivision of Park Forest, discussed at length in *The Organization Man.* Its local area service rates are at the same level as those for Glencoe, Illinois, even though it now includes over twice as many stations (22,108 and 9,433). Both exchanges are served by Illinois Bell, but the growth in Glencoe has not been nearly as fast as in Chicago Heights.

In Illinois, at least, we have not yet heard any great public objection to these illogical differences. We do hear some, however, which I shall mention more specifically a little later. For any one subscriber the amounts involved are small and there is nothing to call the matter to general public attention. Nevertheless, the time will probably come when these rates will need to be more consistent with those charged for the same service in the other cities served by the same company. Some commissions have dealt with this problem by providing for an automatic adjustment of rates whenever an exchange moves from one rate group into another by a specified margin, such as 5 per cent, and for a specific period of time, such as six months.

Differences between the rates for different companies are sometimes only historical and, again, sometimes they are necessary. Different revenue requirements for different companies often produce differences in their rates. For example, one company may have to have a monthly rate of at least $5 for each residence telephone in order to have enough income to stay in business. Another company which operates under generally similar circumstances may have just enough differences in its type of territory, expenses, and plant values to permit an average rate of only $4.

Generally speaking, in our state the Bell companies have lower rural rates than other companies. For example, the Bell rate for rural residence service from its Wauconda exchange is $3.15 per month, while the Middle States Telephone Company's rate for the same service from Pekin is $4. The number of stations which can be called without a toll charge in those two cases is virtually the same (9,500 for Wauconda and 10,000 for Pekin). On the other

hand, the one-party business rate in Wauconda is $9.50, while in the Pekin exchange that charge is only $9.25.

The most important practical reason for the rural rate difference is that less than two per cent of all Illinois Bell telephones are rural service, and it need not rely on those rates for revenue to the extent that many other companies in the state must do. Many smaller telephone companies have a much higher percentage of rural customers. To take an extreme example, the annual report of the Cornell Telephone Company for 1956 showed that 300 out of its 358 telephones were rural main-line stations.

SOMETIMES the differences are much greater and one company's rates are lower for all classes of service. The Bell rates for exchanges like Cairo, Naperville, and Lake Forest (local area service or nonmetropolitan rates in the case of Lake Forest) are $8.25 for a one-party business line, $4.15 for a one-party residence, and $2.90 for a rural residence line. The General Telephone exchanges at Belvidere and Macomb are about the same size (Cairo 4,088, Naperville 4,357, Lake Forest nonmetropolitan 4,539, Belvidere 4,600, Macomb 4,094), but their corresponding net rates are $10.75, $5.75, and $3.95. Illinois Consolidated charges $7.75, $4.50, and $3.10 at its Charleston exchange, which is about the same size (4,200 stations), or 50 cents below Bell on one-party business and 35 cents higher on one-party residence.

These differences between the Bell companies and the independents are sometimes due to the fact that the Bell companies have service offerings producing revenue and expense which are not present to the same extent in the independent picture. They serve more large cities and more business firms and they have a greater development of toll and special equipment service. These sources require much greater investment and expense because of the nature of their use and the value of the service, and thus they provide an entirely different kind of base for the distribution of the charges. At the same time some of the Bell exchanges with rural subscribers are predominantly metropolitan in character, so that those rural stations are more concentrated and more productive of revenue than they are for many other Illinois telephone companies.

ANOTHER type of rate difference which is sometimes misunderstood is the difference between the interstate toll schedules fixed by the FCC and the intrastate schedules fixed by the various state commissions. Obviously, the distance of the average interstate call exceeds the distance of an average intrastate call. This longer haul results in a lower average cost per mile and a schedule of charges which is generally lower than the various intrastate schedules. However, if a state commission should reduce the toll rates within the state to the FCC schedule, it must in the long run raise the monthly rates for local service by a corresponding amount above what they would otherwise be. For many years, the toll rates for messages within Illinois have been virtually uniform for all of the companies in the state, being those approved by us for Illinois Bell. That gives us uniformity within the state, at least.

So far as I know no one has yet devised a satisfactory way of determining the exact cost of furnishing any particular class of telephone service. An eight-party line in the country may require much more investment and expense than a two-party line in the city. But where they are all served by the same central office and the same repair forces, there is no way of knowing what the exact differences may be.

Of course, we do not want to raise all of these different rates to the highest existing level nor do we want to reduce all of them to the lowest level unless we can find some very good reason for doing one of those things. Under Illinois law we must permit each company to earn a fair return on the fair value of its property. Within that basic framework we are still trying to obtain greater consistency in telephone rates.

To say that the commission is not aware of the rate disparities between the different companies is not factual. We are also aware of the law of the state of Illinois that requires us to give each company a fair rate of return on its investment. I cannot believe the companies like the rate disparities any more than the commission does. The large electric utilities in our state have been doing considerable toward eradicating purely historical rate differentials. We hope the telephone companies, working with the commission, may also accomplish much in this regard.

I have said that we do hear complaints at various times—about rate differentials. Yes, we do hear complaints from attorneys representing various municipalities at rate case hearings.

Here I would like to make an observation about standards of practice that I think an attorney should follow when appearing before a commission in a rate proceeding. Not that anyone here needs this comment, but I am told that these papers are widely circulated throughout the American Bar.

WE must assume that an attorney who has entered his appearance in a matter pending before a commission is thoroughly acquainted not only with the subject matter of the case, but also with the law governing the proceeding. I personally feel that an attorney should always keep in mind the position in which he places a commission when he insists on "grandstanding" before his clients and the press and deliberately resorts to methods and arguments that he knows, or should know, are not recognized law or recognized procedure before the commission. For instance, in a recent water rate case in Illinois the attorney representing the different cities involved apparently could find no better defense to the company's request than to engage in a comparative rate analysis of the other operating water companies in Illinois. To be sure, the company in this case was asking for much higher rates than any other water company in the entire state enjoyed. Much was made of this point and left the commission in the position where it had to sharply reprimand him for his tactics. A few months later he appeared before the commission representing a telephone utility and had to acknowledge publicly that he certainly did not approve of rate comparisons between different utilities.

One must remember that a commission forms its judgment of the attorneys practicing before it by their conduct in the cases. The presentation and argument before a commission should be factual, sincere in purpose, and certainly in accordance with the law.

OUR commission is about to be faced with a somewhat different problem in the fixing of new rates for service in Champaign, Illinois, and the surrounding exchanges. Champaign and Urbana are served by Illinois Bell and have almost 24,000 telephones which now call each other without any toll charge. They are surrounded by 14 other exchanges, one of which has about 2,500 stations (Rantoul), while the others range from about 650 (Fisher) down to about 125 (Royal). At the present time, all calls between these small exchanges and Champaign or Urbana are toll calls, costing either 10 or 15 cents for the first five minutes. Many of the residents of these small exchanges work or do much of their business in Champaign and Urbana, and petitions have been presented asking for extended area service (No. 44826 for Bondville and No. 44046 for Thomasboro; extended area service has been ordered between Thomasboro and Champaign-Urbana).

There is a strong community of interest among these exchanges, and toll-free service among them will probably be of real benefit to this area. The telephone companies are now working on a plan under which there would be no toll charges on calls in either direction between Champaign or Urbana and the smaller exchanges. Each small exchange would also be able to call some of its small neighbors without a toll.

IF this proposal were approved by the commission this would be a fairly simple rate issue, provided that all of the exchanges were operated by the same company. However, this case involves three other companies in addition to Illinois Bell, two of them local to the Champaign area and the third being the General Telephone Company of Illinois. (The others are Champaign County Telephone Company and Eastern Illinois Telephone Company.) In virtually every case the existing rates in the small exchanges are somewhat lower than the present rates for Champaign and Urbana. (Existing residence rates are higher in most cases than the present rates in the one smaller exchange which is operated by Illinois Bell; existing business rates are mostly lower.) Under recent decisions of our commission the addition of these 14 small exchanges to the Champaign calling area would bring it into the next rate group and authorize increases in the Champaign rates. If all the surrounding exchanges were operated by one compa-

ny, they would normally take the same new rates as Champaign.

However, it is possible that such an increase would not provide enough revenue to the independent companies to equal their loss of toll revenue and the increased investment in their plant required to handle the much greater volume of business that will result from extended area service. In that event, it may be necessary to fix their monthly rates somewhat above the Illinois Bell rates in the same area in order to cover their revenue requirements. We are working on this "guinea pig" in sincere hope that we will be able to produce a model which we can, in the future, follow where more than one company is involved in an extended area zone.

Now permit me to discuss briefly my thoughts about the use of metered telephone rates. The telephone companies in Illinois, other than in Chicago, have flat monthly rates which allow unlimited calls in the area of the exchange for such flat rates. I understand this is general throughout the country in the telephone industry.

Serious thought, in my mind, should be given to changing such flat-rate system into a unit rate. Many years ago, all utility services such as water, gas, and electricity were on a flat-rate basis. However, the other utilities recognized at an early date that the service should be upon a metered basis so that each customer paid for the amount used. Of course, in all cases, there is a minimum charge which entitles the customer to a certain amount of service.

In the telephone situation, it has been said that the expenses of metering service would be too costly and that the rates would be much larger than continuing the flat-rate type of schedule. However, I think that line of thought and argument was advanced at the time when most calls were handled by operators and before dialization. I know that in Chicago, the Illinois Bell meters all calls and bills them on a unit basis, and even in the outlying sections where the flat rate is in effect, metropolitan calls (those calls which are outside of the flat-rate territory) are metered and the customer billed on a unit basis.

The telephone industry is continually urging the public to make greater use of their telephone, and rightly so. However, when telephone rates are on a flat-rate basis, the company is required to be continually asking the regulatory agency for an increase in rates.

As the use of the telephone increases, particularly between contiguous areas where the company puts in extended service, the company is continually required to put in new plants to handle the increased use of the telephone which it is encouraging, and, therefore, must come to the commission to increase the flat rates it is charging. When cases are presented with a flat-rate structure, the amount of money that is specified usually runs into large figures, and, particularly, when a company such as Illinois Bell Telephone comes in for a statewide increase. At such a time, the newspapers come out with headlines that the telephone company is seeking a $20 million increase.

It is my understanding that on the basis of today's use of the telephone, at least in and around the northern part of Illinois using the Illinois Bell Telephone Company as an example, a unit charge of 3½ to 4 cents per call (the Chicago units alone are billed at 4½ to 4¾ cents per unit) would provide the company with as much revenue as it is presently receiving. To me, if all telephone service was upon such a metered unit basis, a rate increase might receive less publicity by the company saying it is going to increase rates by raising the unit charge two-tenths or three-tenths of a cent.

Also, it could possibly be that by going to a unit basis, and you might start the basis out on 4½ cents a unit, the telephone company might be able to decrease the unit rate if it continues to develop greater use of the telephone. For instance, in our area, which is served by Commonwealth Edison, the company has made effective use of the "Little Bill" slogan that "electricity costs less today than it did twenty-five years ago." However, the average householder's bill is considerably greater than what it was twenty-five years ago, but only because of the greater use of electricity since the per kilowatt-hour charge is less.

I realize that metered telephone rates are practically unheard of and may, when thoroughly analyzed, be impracticable or too costly. However, the mere fact that they are

used in some place, Chicago, New York, and, I believe, Philadelphia, indicates that metered rates for telephone service are not completely without merit. Certainly, metered rates is a more equitable method of paying for service. You gentlemen being lawyers, the idea of metered rates may be provocative enough to provide some interesting discussions in your committee meetings.

In conclusion I wish to thank you for your kind indulgence. May what I have said be received in the spirit of the sender: I mean it in the constructive sense and not as a criticism of the industry.

The Rôle of the Electric Utility Industry In the Nuclear Power Field

By HERBERT B. COHN*

It may be helpful at the outset to define the scope of the electric utilities' interest in nuclear power and the reasons for such interest. By and large, such interest is confined to the use of nuclear power to generate electric energy. Such use of nuclear power is important for two principal reasons: first, in providing an important new source of energy and, second, in providing a possible means of achieving the more economical generation of electric power.

Our major sources of energy are now falling water, gas, oil, and coal. New sources of economical hydro power are limited and, at least relatively, appear to be in a declining trend. Gas and oil resources are also limited and there are growing pressures to devote remaining reserves to higher uses. It is true that our coal reserves, even on the most pessimistic evaluation, appear to be adequate to supply the requirements of this country for at least several hundred years into the future. But it is also true that projections of our needs for coal in the generation of electric power twenty years from now indicate a requirement equivalent to something like 300 per cent of the 160 million tons of coal used in generating power in the United States in 1957.[1]

Even if we assume that there would be no obstacle to providing the necessary tonnage, the further question remains as to its cost. Despite the job which is being done in the United States in mechanization and increasing production per man day of coal, it seems reasonably clear that the long-term upward trend in the price of coal will continue and, indeed, that it is more likely to be accelerated. Further, the cost of coal must necessarily also include the cost of its delivery to the point of use; and there can be little question but that such transportation costs will also continue to rise. The cost of delivered fuel is an important element in the cost of generating electric power, ranging anywhere from 14 per cent to 50 per cent of such cost.

The addition of an entirely new and largely freightless fuel is, therefore, of great importance to the utility industry, not only in adding to our fuel resources, but also in its potential for exerting a competitive restraint on the delivered cost of alternative fuels.

The second principal reason for the importance of nuclear power to the electric utility industry is that it represents a possible technological advance in the direction of achieving more economical generation of electric power. There is nothing new in this interest of the utility industry in technological advances. Over the seventy-five years of its existence, the utility industry—in collaboration with the manufacturers of equipment, the producers of fuel, and research institutions — has actively participated in the research and development leading to advances in the art of generating, transmitting, and distributing electric power. Perhaps the most dramatic advances have been made in the field of thermogeneration in utilizing higher temperatures, higher pressures, and larger units. In 1907 it took the equivalent of 5.4 pounds of coal, on the average, to generate a kilowatt-hour of electricity. In 1957 the average was 0.93 pounds,

*Vice president and chief counsel, American Electric Power Service Corporation, New York, New York.

and in the most efficient plants less than three-fourths of a pound was required. And equally important advances have been made in the transmission and distribution of electric power. The difference between what is happening in the nuclear field and what has been happening in conventional generation over the past seventy-five years is, therefore, not one of kind; it is one of degree in the relative participations of the utility industry, the manufacturers, and the government.[2]

THE part which the utility industry has played to date in the nuclear power field can be reviewed most conveniently by reference, first, to the period before adoption of the Atomic Energy Act of 1954 and, second, to the period following.

1. The original Atomic Energy Act enacted in 1946, with minor exceptions, made it unlawful for any private person to produce or own fissionable material or to own any facilities for its production. The prohibitions of the 1946 act operated—and were intended to operate—to create the most rigid form of government monopoly and to exclude private participation except for limited research and as agents of the government.[3]

In the period prior to 1954 the utility industry's participation was, of necessity, therefore restricted primarily to advising the commission and carrying out limited studies and research.[4] Despite such limitations, the utilities joined with manufacturers and engineering firms in a number of different groups which carried on studies to determine the engineering feasibility of designing, constructing, and operating dual-purpose reactors to produce fissionable materials and power; to examine the economic and technical aspects of building such reactors; to determine the possible research and development needed; and to recommend industry's rôle in designing, building, and operating such reactors.[5]

THE interesting thing to note, in this period, is that, although the opportunities for, and the scope of, utility participation were extremely limited, some 35 utility companies took an active part in the nuclear power program. And it is clear that several of the major projects which have since been completed or are now under way had their origin in the work begun in this period. Moreover, the research and development work done by the various groups in this period, and their reports and recommendations, gave added impetus to the consideration of amendments to the 1946 act which would permit expanded participation. Indeed, some of the proposals for future participation—such as those for private construction of a dual-purpose reactor—could be carried out only with legislative revisions.[6]

2. The Atomic Energy Act of 1954 became law on August 30, 1954. A major objective of the 1954 act was to encourage broadened participation in the development of peacetime uses of atomic energy.

The 1954 act for the first time authorized private ownership and operation of facilities for the production or utilization of atomic energy under licenses to be issued by the Atomic Energy Commission. Individuals and companies are also permitted to lease and use nuclear materials; but the title to all such materials remains in the United States. The act also seeks to further the general objective of promoting industry participation by provisions designed to encourage research and development by private enterprise.[7]

DURING the four years since the enactment of the 1954 act, it is fair to conclude—by almost any objective standard—that the utility industry has made a substantial and important contribution to the development of nuclear power.

Some 123 electric utility companies are participating in a substantial way in either the operation, construction, or planning of a nuclear power plant or as part of a group spending substantial sums on research and development in the nuclear power field. In addition, a municipal power system, a public power district, and two rural electric co-operatives are actively participating in projects which will bring into being four additional nuclear power plants.

The utility industry, as a whole, is participating in the construction, operation, or active planning of 16 nuclear power plants, which will have an aggregate electrical capacity of about 1.2 million kilowatts. As shown in Table I (page 809), three of these plants are now in operation. Table II (page 810) lists the four plants which are now under construction and Table III (page 811)

lists nine plants under contract or in the active planning stage.

UTILITY companies and government-owned utilities are also participating in 12 different groups which are actively engaged in study and research in the field of nuclear power and which are making continuing expenditures of substantial sums of money.[8]

The utility industry has thus already spent more than $100 million and committed itself to aggregate expenditures of well over $500 million on nuclear plants and programs now under way. Many of these projects are being carried out with government assistance involving commitments of an additional $270 million. The plants and programs cover a spectrum of reactor concepts which includes pressurized water, boiling water sodium cooled-graphite moderated, fast breeder, organic cooled and moderated, sodium cooled-heavy water moderated, heavy water moderated and cooled, gas cooled-heavy water moderated and aqueous homogeneous reactors, as well as research and development on other concepts and in the field of fusion. When added to the very extensive program of civilian power reactor experiments, research and training reactors, testing reactors, production reactors, and military power reactors of the government, it is understandable that the so-called three wise men of Euratom concluded that America has "the most complete nuclear foundation in the world."[9]

IN entering the nuclear power field, the electric utility industry has had to face a variety of difficult problems—technological, financial, legal, and regulatory. It is beyond the scope of this paper to discuss these problems in detail. But a brief reference to some of the more important may be helpful in giving some indication of the difficulties which have necessarily influenced the manner and scope of the industry's participation.

1. TECHNOLOGY; SECURITY AND INFORMATION. There are, of course, similarities between the generation of electric power from nuclear fuel and conventional generation. Most of these similarities relate to the conversion of heat into electric power. But the production of heat through nuclear fission involves a wholly new technology which covers the spectrum of physics, chemistry, metallurgy, and many other fields. By way of illustration, an entirely new problem must be faced in finding materials capable of (1) withstanding the high temperatures needed for the modern thermal system of power generation, (2) satisfying the other requisites for safe and effective nuclear fission, and (3) meeting both of these requirements while, at the same time, being subjected to neutron and other radiation bombardment.

The solution of such technological problems has been complicated by security requirements and the difficulties encountered in obtaining information. The 1954 act advanced considerably beyond the 1946 act to give the commission greater leeway in authorizing broader dissemination of information to encourage scientific and industrial progress and enlarge the fund of technical

TABLE I

Plants in Operation

Reactor Plant and Participating Companies	*Type of Reactor*	*Electrical Capacity (Kw)*	*Owner of Reactor*	*Location*	*Estimated Utility Investment*
Shippingport (AEC-Duquesne Light Co.)	Pressurized Water	60,000	AEC	Shippingport, Pa.	$23,300,000
Vallecitos (General Electric-Pacific Gas & Electric Co.)	Boiling Water	5,000	General Electric	Vallecitos, Cal.	570,000
Santa Susana (AEC-North American Aviation-Southern California Edison Co.)	Sodium Cooled-Graphite Moderated	6,500	AEC	Santa Susana, Cal.	1,500,000

information (§ 141). Under the guidance of the 1954 act, considerable progress has been made in declassification of information in the nuclear power field and in enabling freer access to information relating to technical developments.

2. FINANCIAL. Expenditures for nuclear power which is competitive with power generated in conventional plants will not present problems which are much different from those which the industry has had to face in the past. But the extent to which the utility industry is justified in making expenditures on research and development for the purpose of reaching the point of competitive power presents a much more difficult question. It seems clear that the industry is justified in making—and, indeed, that it ought to make—reasonable expenditures for this purpose. But there are limits to what the industry can justify and what it can afford. And in this period participation in the nuclear power field is very expensive.

For these reasons, efforts have been made to get the most out of each dollar of research and development by the use of group projects, by working out co-operative arrangements with the Atomic Energy Commission, or by using both of these approaches.[10] This has helped to alleviate the financial problem, but it has also brought with it a host of other problems.

3. LIABILITY. The liability problem arises out of the fact that it is theoretically

TABLE II

Plants under Construction

Reactor Plant and Participating Companies	*Type of Reactor*	*Electrical Capacity (Kw)*	*Owner of Reactor*	*Location*	*Estimated Utility Investment*	*Estimated Date of Operation*
Dresden (Commonwealth Edison Co.-Nuclear Power Group, Inc., consisting of seven utilities and one engineering-construction company)	Dual Cycle Boiling Water	180,000	Commonwealth Edison Co.	Joliet, Ill.	$51,400,000	1960
Indian Point (Consolidated Edison Co.)	Pressurized Water	275,000*	Consolidated Edison Co.	Indian Point, N. Y.	90,000,000	1960
Yankee (Yankee Atomic Electric Co. consisting of 11 utilities)	Pressurized Water	134,000	Yankee Atomic Electric Co.	Rowe, Mass.	57,000,000	1960
Enrico Fermi (Power Reactor Development Co. consisting of 17 utilities and seven consulting firms and manufacturers — Detroit Edison Co.-Atomic Power Development Associates consisting of 32 utilities and 11 consulting firms and manufacturers)	Fast Breeder	100,000	PRDC	Monroe, Mich.	67,000,000	1961

*Includes 112,000 kilowatts by oil-fired superheater.

APPENDIX

possible for a nuclear reactor failure to result in an accident involving damages greatly exceeding any insurance coverage which has been offered to date. There is not now enough experience to indicate with any precision the degree of probability that such a catastrophe might, in fact, occur. It is understandable, therefore, that many of those in the atomic industry were reluctant to go forward with undertakings which might involve enormous

TABLE III

Plants under Contract or in Active Planning Stage

Reactor Plant and Participating Companies	*Type of Reactor*	*Electrical Capacity (Kw)*	*Owner of Reactor*	*Location*	*Estimated Utility Investment*	*Estimated Date of Operation*
Elk River (Rural Co-op Power Association)	Closed Cycle Boiling Water	22,000*	AEC	Elk River, Minn.	$2,500,000	1960
Piqua (City of Piqua, Ohio)	Organic Cooled and Moderated	12,500	AEC	Piqua, Ohio	4,000,000	1961
Consumers Public Power (Consumers Public Power District)	Sodium Cooled-Graphite Moderated	75,000	AEC	Hallam, Neb.	16,200,000	1961-62
Chugach (Chugach Electric Ass'n)	Sodium Cooled, Heavy Water Moderated	10,000	AEC	Anchorage, Alaska	1,900,000	1962
Pathfinder (Northern States Power Co.-Central Utilities Atomic Power Associates consisting of 11 utilities)	Controlled Recirculation, Boiling Water	66,000**	Northern States Power Co.	Sioux Falls, S. Dak.	22,000,000	1962
Carolinas-Virginia (Carolinas-Virginia Nuclear Power Associates consisting of four utilities)	Heavy Water Moderated and Cooled	17,000	Carolinas-Virginia	Parr Shoals, S. Car.	21,100,000	1962
Humboldt (Pacific Gas & Electric Co.)	Advanced Boiling Water	60,000	Pacific Gas & Electric Co.	Eureka, Cal.	20,000,000	1962
FWCNG-ECNG (Florida West Coast Nuclear Group consisting of two utilities—East Central Nuclear Group consisting of 14 utilities)	Gas Cooled, Heavy Water Moderated	50,000	Florida West Coast Nuclear Group	Florida West Coast	34,900,000-38,400,000***	1963
Pennsylvania Advanced Reactor (Pennsylvania Power & Light Co.-Baltimore Gas & Electric-Westinghouse)	Aqueous Homogeneous	70,000-150,000	Pennsylvania Power & Light Co.	Central Eastern Pennsylvania	62,500,000	1963

*Includes approximately 4,500 kilowatts by oil-fired superheater.
**Includes approximately 13,000 kilowatts by oil-fired superheater.
***Depending on whether AEC exercises option to require increase in initially estimated R&D expenditures.

potential liabilities until an adequate solution was reached to provide protection against such liabilities.[11]

This problem has been solved in major part by enactment in 1957 of legislation providing for government indemnification up to $500 million in excess of such amount of protection as AEC finds to be reasonably available in the form of commercial insurance or otherwise and limiting liability to the aggregate of the protection otherwise required by AEC and the government indemnification.[12]

The indemnification legislation eliminates what may well have been an insuperable obstacle. There are still, however, some aspects of the liability question which need to be faced. The most important of these is the question of liability in the international atomic field, but this is, of course, a problem primarily for manufacturers of reactors and components.[13]

In the domestic field the most important remaining questions have to do with whether the insurance policies available are adequate to provide full coverage and with the economic burden which will be imposed by premiums proposed to be charged for such insurance.[14] While AEC, under the indemnification legislation, will have to make a determination as to what financial protection, including insurance, is reasonably available, there would seem to be a range in the concept of reasonable availability within which these questions will still remain.

4. AEC Regulation—Government Assistance. The construction and operation of a nuclear power plant will generally require application for, and issuance by AEC of, a construction permit (§ 185), a license covering the possession and availability of the necessary nuclear fuel (§ 53), a license for the reactor (§§ 103, 104), licenses for any operators who manipulate its controls (§ 107), clearances with respect to safety standards (*cf.*, §§ 29, 182b); arrangements with the commission for the supply of nuclear fuel (see § 53), the reprocessing of spent fuel (§ 161m), the purchase by the commission of any excess special nuclear material produced in the reactor (§§ 52, 56); and the consent of the commission to placing a mortgage on the reactor (§ 184). All licenses are subject to modification, suspension, or outright revocation (§§ 186, 187).

And, if the particular project involves a request for government assistance, the proposer will, in addition, first have to negotiate an arrangement with AEC (which generally must conform with the rather rigid specifications which AEC has prescribed under its Power Demonstration Reactor Program) and then follow such arrangement through hearings before the congressional Joint Committee on Atomic Energy, possibly legislation to authorize the necessary government funds,[15] and appropriations legislation. During this period and thereafter, the proposer is also likely to be dealing extensively with the Comptroller General and the General Accounting Office.[16] And, on occasion, problems may be raised by third parties.[17]

All of this is, of course, expensive, time-consuming, and sometimes frustrating; and much of it involves substantial risks that prior effort and expense will come to naught.

5. Taxes. The number of dollars which a tax-paying utility spends for research and development will reduce the utility's profit after taxes by only 48 per cent of the expenditure if such expenditure is ruled to be an expense for federal income tax purposes. The tax treatment of expenditures for research and development, therefore, has a direct effect on the amounts which a tax-paying utility can afford to spend for such purpose.

The Internal Revenue Code expressly provides that expenditures for research and development are properly to be regarded as deductible expenses. In the usual case there is a fairly clear line of demarcation between such expenditures and expenditures for capital assets which must be capitalized. The problem is somewhat complicated in the nuclear power field because, at this stage of development, it would not do violence to the facts to regard practically every expenditure as being for research and development. The utilities have not gone this far but have, instead, asked for rulings to the effect that amounts clearly for research and development, and in excess of those required to produce equivalent amounts of power through conventional means, be treated as research and development expenses. Rulings to this effect have been granted.[18]

6. Public Utility Holding Company Act. Where a group project involves the creation of a joint subsidiary which is to own the nuclear power plant, the question arises whether this makes the participants holding companies subject to regulation as such under the Public Utility Holding Company Act of 1935. Companies which are not now in holding company systems are, understandably, not anxious to subject themselves to the very extensive regulatory and reporting requirements of the Holding Company Act.

The Securities and Exchange Commission has been willing to act administratively to provide in its Rule 7 that a company which (1) merely owns or operates the reactor portion of a nuclear power plant, (2) is organized not for profit, and (3) is engaged primarily in research and development activities, shall not be deemed to be a "utility company," so that mere ownership of its securities would not make the owner a holding company. And in response to a specific application by PRDC, which would own the reactor portion of the PRDC-Detroit Edison project and sell steam to Detroit Edison and plutonium to AEC, the SEC issued an order to the effect that PRDC would not be an "electric utility company" under § 2(a)(3) of the Holding Company Act.[19]

The action taken by SEC is not broad enough, however, to cover the situation in which the joint subsidiary owns or operates the entire nuclear power plant. Legislation has been introduced to exempt companies which combine to form a generating company, the entire output of which is sold to the combining companies.[20]

It should be noted that the Yankee group has found it possible to go forward with its project even though the joint subsidiary which will own the reactor plant is a utility subsidiary under the Holding Company Act. And the Nuclear Power Group and other group projects have been able to work out organizational arrangements which do not bring the joint company or its members under the act and thus avoid the problem completely.

7. State Regulation. State regulatory problems are, of course, raised with respect to the accounting and rate treatment of expenditures for nuclear development and, in some states, the problem has arisen before state commissions in connection with approval of proposed financing and the obtaining of certificates of convenience and necessity.

Research and development expenditures by utilities have been approved by eight commissions; nine commissions have approved financing arrangements, whereby utilities guarantee certain portions of a $15 million loan made by PRDC in connection with its project; and the Massachusetts commission has approved arrangements for the acquisition of securities of, and loans to, the Yankee project.

All ten commissions which have dealt with the matter have authorized utilities to account for nuclear research and development expenditures by charges above the line to Account 801, Miscellaneous General Expenses; and the California commission has expressly approved such a charge as an operating expense in a rate case.

The Illinois and California commissions have issued certificates authorizing construction of nuclear power plants.[21]

In a statement which seems to reflect the views of the state regulatory agencies generally, the 1957 Report of the NARUC Committee on Nuclear Energy in the Electric Industry observed:

> The feeling seems to be general that public utilities have a responsibility to participate in research and development work which is aimed at the eventual commercial use of nuclear materials for the generation of electricity; and the desire of electric utilities to participate in this work is commendable and in the public interest.

These questions are covered in greater detail, along with detailed consideration of state action taken in respect of health and safety problems arising out of nuclear power development, in this year's report of the Standing Committee. Accounting problems are the subject of a separate paper by Mr. Fischer.[22] (See page 818.)

A difficult and serious problem on the horizon is how to allocate the regulatory responsibility over radiation hazards—ordinary and catastrophic—as among federal, state, and local agencies. The development of nuclear fission has been in a context of national

defense which is, of course, a federal responsibility. On the other hand, radiation hazards arising out of the peacetime use of nuclear fission are closely related to the areas of health and safety. These have traditionally been the responsibility of the states.

Under the 1954 act, it seems clear that the federal government now has full authority in this field. It is less clear whether the act is to be regarded as pre-empting the field or permitting concurrent state and local regulation. The problem is still in the process of evolution. The proposals for its solution cover a broad range in the way in which responsibility should ultimately be allocated.[23]

The solution to this problem is important to the utility industry which will have to live with the regulation prescribed and which must be concerned with the possibility not only of duplicate regulation but, what would be much worse, conflicting regulation.

WHAT I have had to say up to this point is mostly factual and, I think, largely noncontroversial. But discussion of the rôle of the electric utility industry in the nuclear power field is not complete without discussion of the rôle of the government. And—apart from the need for government regulation on which there is general agreement—this latter question is highly controversial.

I think it would be conceded generally that the form and scope of government participation should properly be related to the importance of nuclear power in the particular country. But the importance of producing electric power from nuclear fuel is not an absolute to be judged in a vacuum; it must be evaluated in the context of the needs and economic conditions of particular localities. A major factor in any such evaluation is the fuel supply and fuel cost otherwise available.

There is a vast difference between the fuel supply and costs of this country and those, for example, of Europe. Delivered coal is available in some areas in the United States at $4 a ton; in England it costs approximately $20 a ton. There is a corresponding difference in the importance of rapid development of nuclear power to supply the domestic needs of this country, on the one hand, and the needs of those countries in Europe which have a scarcity of fuels and must import them at high costs.

THERE now appears to be general agreement that acceleration of the nuclear power program through increased government participation is unnecessary to satisfy our own domestic needs. We certainly do not need nuclear kilowatts as such. Indeed, at the present time, nuclear kilowatt-hours in this country are extremely expensive and burdensome. Optimistic estimates of costs at nuclear power plants now under construction or in the planning stage average out to about 150 per cent of the cost of equivalent power produced through conventional means in high-cost areas of this country. Taking this latter figure at 8 mills per kilowatt-hour, a 100,000-kilowatt nuclear power plant, which at a load factor of 70 per cent would produce 613.2 million kilowatt-hours a year, thus represents an annual economic burden of about $2.5 million.

The simple fact is that, at the present time, no reactor is known which can be guaranteed to produce electric power at any location in the United States at a cost equal to or less than the cost of power using conventional fuels. Thus, from the point of view of our domestic needs, nuclear power development can be justified only as part of a long-range program having the ultimate objective of achieving competitive power. The conventional laws of economics would normally be sufficient to assure the progress necessary to satisfy such needs. Nuclear power would be developed and used when and where it was justified on the basis of economics, either because of the need for an additional source of fuel or because of lower costs. Our experience in the use of alternative fuel sources, such as coal, oil, and gas, indicates how these economic laws would operate.[24]

BUT there are arguments that our program needs to be accelerated substantially beyond the point necessary for domestic requirements because of our need to retain world leadership in the peaceful use of the atom for reasons of international prestige and to help our friends in western Europe and elsewhere.

International considerations must, of course, be important factors in the formulation of national policy. And we can assume that—because of international considerations and because of its possible use as an instrument of foreign policy—our nuclear power

program needs to be accelerated beyond the point required for domestic needs. The question is then raised as to how this acceleration should be brought about and, in particular, the scope of government participation in such an accelerated effort.

In considering this question, I start with the premise that it is desirable and in keeping with our traditions to confine government activity and expenditures to an area in which the desired objective cannot otherwise be achieved. It is true that there have already been many departures from this premise in the field of electric power, in which government and government-financed electric power systems now provide some 24 per cent of the total utility power supply of the United States. But, taking the existing situation as it stands, I think it would be generally (though I am afraid not unanimously) agreed that atomic energy should not purposefully be used as a vehicle to advance the relative position of government and government-financed power.

In the second place, I would urge that every effort should be made to avoid putting AEC itself into the business of distributing electric power. AEC has been subject to the criticism that it already performs a variety of functions, some of which are in conflict with one another. In particular, it has been suggested that AEC's regulatory authority is inconsistent with its responsibility for encouraging a civilian nuclear power program. But putting AEC into the utility business on a large scale is precisely the kind of program in which the greatest conflicts would arise in the varied functions entrusted to AEC. The federal government now has a number of agencies in the electric utility business and—apart from all other considerations—if it is finally determined to adopt a program of government construction and operation of large reactors, it would certainly make more sense to have such program carried out by the government agencies which are already in the utility business.

Assuming, then, that, because of international considerations, we need to do still more to accelerate our efforts in the development of nuclear power, the following policies seem to me to be the ones we should follow:

First: The major emphasis in any accelerated program should still be on research and development. With a given amount of dollars and man power, the goal of competitive nuclear power will be achieved much more quickly through research and development in ways to simplify designs and cut costs of reactors and reactor components than in merely providing a large number of nuclear power kilowatts and kilowatt-hours. Where it is desirable to build nuclear power plants as part of the research and development effort, they should be no larger than is necessary to prove out the particular technical and scientific objectives for which they are to be constructed and operated.

Second: The resources and experience of the existing utility industry—public and private—should be used to the fullest extent possible. Every encouragement should be given to participation by the utility industry and every effort should be made to eliminate obstacles in the way of such participation. In particular, AEC should not build large power plants until it has made every effort to get the job done by the existing utility industry—public and private.

Third: To the extent that the nuclear power program is to be accelerated beyond that necessary for domestic needs, the justification for such acceleration can only be related to international considerations. The carrying out of international policies is properly a governmental responsibility. Under such circumstances government participation and assistance are warranted to the extent necessary to achieve the desired acceleration. Accordingly, to the extent necessary for such purpose, the government is warranted in carrying out research and development and providing assistance in the construction and operation of nuclear power plants which will contribute to the accelerated program. There would appear to be every reason to extend such government assistance to cover all, or at least a substantial part of, excess costs above those which would be incurred for the conventional production of equivalent amounts of power; and to eliminate the present artificial distinction between assistance for research and development (which is now permissible) and providing part of the cost of the actual bricks and mortar (which is not). This expansion of the area of government assistance has been suggested in a recent

speech by Senator Anderson and has been urged by representatives of the government power groups.[25]

FOURTH: The proposed Euratom legislation[26] suggests another means of accelerating our nuclear power program which deserves much greater emphasis than we have given to it. Since the objectives of such acceleration are rooted in international prestige and international commitments, a much greater emphasis should be placed on government assistance for the design and construction of reactors to be located abroad. Such assistance can be channeled through the domestic manufacturers or the foreign governments or in research and development programs designed directly to assist in the development of such reactors.

Fifth: Where, as a last resort, it is determined that AEC must construct and operate large nuclear power plants, steps should be taken to avoid creating conditions under which pressures could subsequently be applied to make such plants the nucleus of a new federal power business. In such cases the reactor should be located, wherever possible, at an AEC facility and the power produced should be used in such facility; any surplus power should be sold, without preference, at its actual value to the existing utility supplier in the area[27]; and the plant should be sold on a nonpreferential basis when it is no longer useful for research and development purposes.

IN summary, our policy should be to formulate the program deemed necessary to carry out our international commitments and then to utilize, to the fullest extent, the existing utility industry—public and private—and manufacturers, in providing such financial assistance as is necessary to supplement the normal economic incentives.

Footnotes

[1] See address of Philip Sporn, "The Engineer's Responsibility, Modulating Scientific Developments in the Fields of Conventional and Atomic Power during the Next Two Decades." Response of the Medalist to the John Fritz Award (November 11, 1955).

[2] See address of Philip Sporn, "The Place of Nuclear Power in the Electric Power Supply of the United States—Present and Prospective," before the National Industrial Conference Board (October 16, 1952).

[3] Gordon Dean, then AEC's chairman, described these provisions as creating "a state monopoly that is exceeded by no other federal operation in the tightness and rigidity of its controls." 98 *Congressional Record* A3458 (June 25, 1952). The reasons for this initial government monopoly are set forth in the Report of the Special Senate Committee on Atomic Energy, S. Rep. No. 1211, 79th Congress, 2nd Session (1946). See also Ruebhausen and von Mehren, "The Atomic Energy Act and the Private Production of Atomic Power," 66 *Harvard Law Review* 1450 (June, 1953).

For a detailed analysis of those provisions of the 1946 act representing obstacles to any extensive private participation, see Dean E. Blythe Stason's "Memorandum on Private Utility Ownership and Operation under the Present Atomic Energy Act" dated April 21, 1953, and appearing in the hearings before the Joint Committee on Atomic Energy, 83rd Congress, 1st Session, on "Atomic Power Development and Private Enterprise" (June-July, 1953), pp. 142-149.

[4] In August, 1949, the commission appointed an *ad hoc* "Advisory Committee on Co-operation between Electric Power Industry and AEC." For reference to the activities and recommendations of this committee, see Eighth Semiannual Report of AEC (July, 1950), pp. 185, 186, and Tenth Semiannual Report of AEC (July, 1951), p. 25.

[5] See Ninth Semiannual Report of AEC (January, 1951), p. 11; Tenth Semiannual Report (July, 1951), pp. 23, 24; Twelfth Semiannual Report (July, 1952), p. 18; Thirteenth Semiannual Report (January, 1953), p. 23; Fourteenth Semiannual Report (July, 1953), pp. 23, 24; Fifteenth Semiannual Report (January, 1954), p. 20; Sixteenth Semiannual Report (July, 1954), p. 27.

[6] See Ruebhausen and von Mehren, "The Atomic Energy Act and the Private Production of Atomic Power," 66 *Harvard Law Review* 1450 (1953); Boskey, "The Atomic Energy Act and the Power Question," 10 *Nucleonics* 10 (1952).

[7] A very good summary of the 1954 act, its background and legislative history appear in Marks and Trowbridge, "Framework for Atomic Industry, A Commentary on the Atomic Energy Act of 1954" (BNA, Inc. 1955).

[8] These groups are:

American Nuclear Power Associates (consisting of one utility and four industrial and engineering firms).

Atomic Power Development Associates (consisting of 32 utilities and 11 industrial and engineering firms).

Atomic Power Engineering Group (consisting of 13 utilities and two engineering organizations).

East Central Nuclear Group (consisting of 14 utilities).

Minnesota Nuclear Operations Group (consisting of two utilities and 26 other business organizations).

APPENDIX

Nuclear Power Group (consisting of seven utilities and one engineering-construction company).

Pacific Northwest Power Group (consisting of four utilities).

Puget Sound Utilities Council (consisting of one investor-owned utility and four government-owned utilities).

Rocky Mountain Pacific Nuclear Research Group (consisting of eight utilities).

San Diego Gas & Electric Company (consisting of one utility participating with a manufacturer).

Southwest Atomic Energy Associates (consisting of 15 utilities).

Texas Atomic Energy Research Foundation (consisting of 11 utilities).

[9] See the report entitled "A Target for Euratom," dated May 7, 1957, submitted by Messrs. Armand, Etzel, and Giordani to the members of the European Atomic Energy Community. *CCH Atomic Energy Law Reporter*, ¶8414.

For further details respecting the projects and programs referred to in the text, see the Twenty-third Semiannual Report of the Atomic Energy Commission (January, 1958), pp. 77-136, 354-365; hearings before the Joint Committee on Atomic Energy, 85th Congress, 2nd Session, on development, growth, and state of the atomic energy industry (1958), pp. 569-577 (statement of AEC); *id.*, pp. 371-383 (testimony of Elmer L. Lindseth, as chairman, Edison Electric Institute Committee on Atomic Power); American Public Power Association, Atomic Energy Service, *Newsletter*, June 26, 1958, following p. 6; and remarks of Congressman Craig Hosmer, 104 *Congressional Record* 12477, *et seq.* (July 14, 1958). See also Twenty-fourth Semiannual Report of the Atomic Energy Commission (July, 1958).

Reference should be made to one further important contribution of the utility industry. In the fall of 1956, in recognition of the need for continuing objective and broad-gauged surveys of the civilian power program, the members of Edison Electric Institute voted to set up a Technical Task Force on Nuclear Power. The Task Force was assigned the job of studying and appraising, on a continuing basis, the technical and economical factors relating to the development of nuclear power and was requested to issue public reports which would be of assistance in further advancing nuclear power development. This Task Force includes outstanding experts from universities, industrial companies, and utility companies, and it has had the assistance and advice of some of the foremost consultants in the nuclear power field. Following a year of investigations and studies, the Task Force issued its first report in February of this year, reviewing the status and prospects of nuclear power. The text of this report, which includes a more detailed statement of the objectives and membership of the Task Force, appears in the hearings before the Joint Committee on Atomic Energy, 85th Congress, 2nd Session, on development, growth, and state of the atomic energy industry (1958), pp. 467-481.

[10] Exceptions are the Indian Point project of Consolidated Edison Company and the proposed Humboldt project of Pacific Gas and Electric Company, which are being carried out by individual companies and without any request for government assistance.

[11] An exhaustive summary of the liability problem appears in a report, entitled "Financial Protection against Atomic Hazards," issued in 1957 by a research group working at Columbia University.

[12] This legislation was added as § 170 of the 1954 act by PL 85-256 (71 Stat 576).

[13] This problem is being studied by a group at Harvard Law School which, in May, 1958, issued an interim report entitled "Financial Protection against Atomic Hazards: The International Aspects." The interim recommendation of the Harvard group is for multilateral or bilateral treaties to provide for liability without fault, the use of private insurance to the extent available, and indemnification by the government of the country in which the reactor is located.

[14] To use the Dresden project as an example, it appears that the proposed liability insurance would involve an annual cost of $250,000; property damage (due to nuclear hazards) covering the reactor may involve an estimated $130,000; and the annual indemnification fee of AEC will be some $19,000. Assuming a load factor in the range of 60 per cent to 80 per cent and capability of 180,000 kilowatts, the aggregate cost of insurance and indemnification covering nuclear hazards only will be in the range of .42 to .32 of a mill per kilowatt-hour. While this can be lived with in the early stages of atomic development, it will represent an obstacle of consequence in the attempt to achieve competitive nuclear power.

[15] See § 261 of the Atomic Energy Act of 1954, as amended by PL 85-79 (71 Stat 274) (1957). This amendment had its origin in a speech of Congressman Clarence Cannon, chairman of the House Appropriations Committee. See 103 *Congressional Record* 5189, *et seq.* (April 16, 1957).

[16] See, for example, the Comptroller General's report on the contract between AEC and Yankee Atomic Electric Company. *CCH Atomic Energy Law Reporter*, ¶3038.

[17] See, for example, the extensive and prolonged attacks which have been made on the Enrico Fermi project by the United Auto Workers and certain other labor organizations, asserting that a construction permit should not be issued for the project on the ground that there has not been an adequate showing as to safety and financial responsibility. *CCH Atomic Energy Law Reporter*, ¶11201.

[18] See, for example, the ruling issued in the case of Power Reactor Development Company. *CCH Atomic Energy Law Reporter*, ¶3040.

[19] Matter of Power Reactor Development Company, Holding Company Act Rel. 13367, January 17, 1957. *CCH Atomic Energy Law Reporter*, ¶3033.

[20] See S 2552, 85th Congress, 1st Session, introduced by Senator Bricker on July 15, 1957. This legislation is intended to facilitate joint generating companies, whether such generation is nuclear or conventional.

[21] Except for the recent action taken in respect of accounting by the North Carolina Utilities Commission in matter of application of Duke Power Company and Carolina Power & Light Company, *CCH Atomic Energy Law Reporter*, ¶3046, July 10, 1958, the commissions referred to and the rele-

vant citations are set forth in the 1958 report of the Public Utility Section's Standing Committee.

[22] See also "State Activities in Atomic Energy" (1958) issued by Atomic Industrial Forum, Inc.

[23] See HR 8676, 84th Congress, 2nd Session (1956); S 53, 85th Congress, 1st Session (1957); Cavers, "Legislative Readjustments in Federal and State Regulatory Powers over Atomic Energy," 46 *California Law Review* 22 (1958); Frampton, "Radiation Exposure—The Need for a National Policy," 10 *Stanford Law Review* 7 (1957); Krebs, "Radiation Hazards and the States, Industrial Nuclear Development: A Challenge to the States," conference sponsored by National Association of Manufacturers (May, 1958).

[24] In this light—and if we take into account only our domestic requirements—those engaged in the business of producing and selling competing fuels would have every justification to argue against substantial government subsidies to nuclear power. See, for example, statement of Kenneth A. Spencer, chairman of the National Coal Association, Atomic Energy Committee, appearing in the hearings before the Joint Committee on Atomic Energy, 85th Congress, 2nd Session, on development, growth, and state of the atomic energy industry (1958), pp. 563-565; remarks of Congressman Bailey, 104 *Congressional Record* 12473, 12474 (July 14, 1958); remarks of Congressman Fenton, 104 *Congressional Record* 13372, 13373 (July 22, 1958).

[25] See address of Senator Clinton P. Anderson at fourth annual meeting, Nuclear Energy Writers Association (June 18, 1958), appearing in hearings before Subcommittee on Legislation, Joint Committee on Atomic Energy, 85th Congress, 2nd Session, on AEC Authorizing Legislation (1958), pp. 428, 431; American Public Power Association, "Memorandum on 'Partnership' Program Terms in S 4051" (July 8, 1958), appearing in 104 *Congressional Record* 12585, 12586 (July 15, 1958).

[26] See AEC Rel. No. A-154 (June 23, 1958), S 4047, and HR 13119 proposing an "Euratom Cooperation Act of 1958."

[27] This would, of course, require repeal of the preference clause in § 44 of the Atomic Energy Act.

Accounting Problems of Atomic Energy Projects

By HARVEY A. FISCHER*

THE purpose of this discourse is to deal with accounting problems—as a lawyer views them—that will challenge the attention of management and regulatory authorities in accounting for expenditures by a regulated electric utility in (a) conducting research and development in the use of nuclear fuels in the generation of electric energy, or (b) participating with others through the medium of a nonprofit research and development corporation, or some other form of joint effort.

Both the direct cost incurred and expenditures made by a regulated electric utility and the contributions or payments made by a regulated electric utility to an entity organized for the purpose of conducting research and development in the field of nuclear energy will be the subject matter of comment. The information and knowledge resulting from such research and development work and the application to the generation of electric energy will, of course, be available to all electric utilities contributing to the joint effort. I believe it obvious that, whether the research and development work is carried on directly by an electric utility or through the medium of an entity representing a joint effort by several electric utilities, the expenditures are and will be the subject matter of regulation. Likewise, it is important that the books of account reflect a uniformity of treatment of expenditures and accruals (during both the construction and operation of a reactor), to the end that a meaningful comparison of capital costs and operating expenses of the different types of reactors may be made.

To be realistic, I think all of us, including the regulatory agencies, should realize that we have entered upon research and development work which may, and probably will, extend over the next twenty years. This relatively long period should not, however, be the basis for drawing any distinction between it and "Research" now defined and included in the Uniform System of Accounts. This quest for a practical means of producing heat energy by the use of a new fuel may actually go on for many years beyond the 20-year period I have referred to. Assuming the cost to a given electric utility remains prudent and the research and development work bears promise of success in the search for a new source of energy, regulatory agencies have evidenced an intent to encourage and support it by requiring ac-

*Counsel, Detroit Edison Company, Detroit, Michigan.

counting methods fair to the utility and to the customers it serves. Thus far, the regulatory agencies of nine states[1] have given their endorsement and support to the efforts of the private electric utility to foster this development which ultimately has as its goal two objectives: (1) the production of electric energy at a cost equal to or more economical than is possible through the use of conventional fuels, and (2) to bring relief to the heavy demands now made upon the world's store of fossil fuels. The latter is also in the public interest. Honest thought admits of the responsibility upon private industry to search for and develop a new source of energy which holds ultimate promise of the more economical generation of electric energy.

The cost of such research and development has thus far been uniformly held to be a proper charge to operating expenses, Account 801—Miscellaneous General Expenses. The problem of accounting properly for these costs as well as other nuclear power-generating costs has the attention of the National Association of Railroad and Utilities Commissioners, federal regulatory authorities, and the Edison Electric Institute. Will the Uniform System of Accounts now prescribed provide the answer to the accounting problems that we logically may encounter when considering this new source of generation?

It shall not be my purpose to prescribe or to suggest the proper treatment of some of the major items, but rather to direct your attention to them. However, based upon present knowledge, it appears the facts will require supplementation of the Uniform System of Accounts. It is of extreme importance that the system of accounts properly reflect the judgment of (1) the regulatory authority, (2) the private utility, and (3) consideration of that which is fair to the utility's consumers.

As previously indicated, the cost of such research and development work reflects an effort to provide a more efficient, economical, and abundant source of heat energy than that resulting from the use of fossil fuels. The cost has been uniformly recognized as a charge against Account 801—Miscellaneous General Expenses.[2] It remains for both management and the regulatory agency to determine at what point in time the research and development stage has been completed, and the subsequent costs reflected in the appropriate Plant Account. We should recognize that this research and development can be carried on by a utility which is directly constructing, and intends to operate a nuclear power plant in conjunction with its overall system power supply. Under these circumstances, it would appear proper to recognize the resultant capital charges and operating expenses in the same manner as for a conventional power plant.

I do not propose to direct your attention to any detailed or new system of cost accounting, for that is the responsibility of others more qualified. Much work has been done in that field by the Canadian Institute of Chartered Accountants, and an excellent discussion and treatment are to be found in the publication of that association in August, 1955, and your attention is directed to it.[3] While I propose to refer to some of the fundamental accounting problems that will arise, as a lawyer sees them, the answer must be supplied by the joint effort of the electric utility and the regulatory agency having jurisdiction over it.

Cost of Reactor

The cost of a research and developmental reactor incurred by a research and development group, under existing authority may have been charged off as an operating expense, but nevertheless it will, for statistical and comparative purposes, be to the distinct advantage of all concerned that even in this instance records be maintained so that power cost computations and comparisons can readily be made.

The accounting problems will arise when one is entitled to assume that a given reactor hereafter placed in service is recognized as not only of practical use in the generation of electric energy, but that it is also capable of the economic production of electricity and its cost recorded in the Plant Account and reflected in the rate base. When we consider the cost of land upon which the reactor and

[1] "Research and Development Costs Incurred by Regulated Utilities," *CCH Atomic Energy Law Reports*, ¶3046, July 22, 1958 (California, District of Columbia, Illinois, Kansas, Michigan, New York, North Carolina, Virginia, and Wisconsin).

[2] *Id.*

[3] Vol. 67, August, 1955, "The Canadian Chartered Accountant."

related facilities have ben erected, we immeditaely encounter a perhaps visionary question as to the treatment to be accorded the cost of that part of the land which may be described as "an exclusion area." Under present requirements of the Atomic Energy Commission, at least as I understand them, that commission has insisted upon the establishment of such an area. In simple terms, this means that the electric utility is required to purchase and continue to hold more land than is necessary for the erection and operation of the reactor, and considerably more than would be the case for a conventional generating plant, including necessary land for coal storage. Also, in most cases, the remoteness of a nuclear plant location with respect to energy demand and transmission facilities requires consideration. Shall the cost of such "exclusion area" be treated as a part of the cost of the reactor? Shall it be considered simply as land and a part of "Plant" as these words are employed in the existing Uniform System of Accounts, or should this area be carried under the account "Land Held for Future Use," or some other account such as "Land Held for Security Purposes"? Any final determination should only be made after thorough review of the facts in each case.

If we cannot assume that the reactor has come to be recognized as practical and capable of the economic production of electricity or, when compared with another type of reactor, it appears to be inefficient, then it would seem that all or part of the cost of such a reactor should be provided for through charges to the appropriate account for research and development expenses. It is a question in situations of this kind as to what amount of the reactor cost should be included in the rate base. Under some circumstances the cost might appropriately be reflected in the rate base subject to a specific amortization program based upon a predictably short service life or established obsolescence.

Depreciation and Obsolescence

NUCLEAR power plants being built today may be subject to obsolescence in considerable degree if the expected rapid advance does materialize. The effects on depreciation policy will have to be carefully evaluated. The important question is the probable useful life of a given reactor.

It also involves consideration of another equally important factor; namely, that the reactor in the course of construction or in operation may also have become obsolete during construction. Evidence is at hand that the scientists are engaged in the design of a second and third generation of reactors based upon what has already been learned in the design and testing of important parts of reactors now under discussion. The rapidity with which scientific information and knowledge may develop is difficult to predict. If we are to follow conventional methods of depreciating the reactors now under construction so as to provide a fund for their replacement at the end of their useful life, we are brought face to face with the question: What is their probable life? In view of the fact that the life of the reactor at best may be relatively short, is it not the part of wisdom to amortize the cost over a short period of time so as to provide more adequately for the early obsolescence of initial reactors which we have every reason to believe will occur? The determination of the answer can only be arrived at by the co-operative efforts of the scientists capable of appraising the information at hand, management, and the proper regulatory agency. Dependent upon the state of development and knowledge of a given reactor and its acceptance, the treatment to be prescribed may well be expected to differ rather widely as to specific types of reactors at any given time.

I AM well aware of the paradox I have apparently created by discussion of research and development on the one hand, and accruals for depreciation on the other. Of course, in the case where utility contributions charged to Account 801 fully provide for the cost of the nuclear reactor, the cost is not recorded as "Plant" under the Uniform System of Accounts. Nor do the assets so acquired become an element of the rate base for rate-making purposes unless subsequent accounting treatment reflecting their purchase by a utility and status as used and useful property serves to place them in the category of "Plant" account. In this situa-

tion as well as in cases where a utility is from the beginning the direct owner of the nuclear plant, accruals for depreciation, including obsolescence, most certainly are necessary and appropriate.

Fuel Costs

PROPER determination of the actual fuel cost used in producing electricity during the period of research and development, and thereafter, cannot be determined without reference to the agreement existing between the Atomic Energy Commission and the electric utility. As an illustration, the Atomic Energy Commission may agree that the utility purchases the normal uranium, leases the enriched uranium, contracts for the fabrication of the fuel elements, and returns the fuel elements to a commission site for reprocessing. Or, as with some agreements, the Atomic Energy Commission may waive the fuel charge. In fact, there may be several variations of the basic agreement, depending on the facts. Shall the charge made by the Atomic Energy Commission for supplying the original fuel elements and an inventory of the same material be viewed as a rental or service charge, or as a direct fuel cost? Shall the cost of producing electricity be limited to the cost of reprocessing the spent fuel? Shall the cost of reprocessing the spent fuel be offset by the aggregate of the revenue received from the sale of new fuel materials, such as plutonium and uranium 233? Plutonium (pu 239) and uranium 233 are *fissionable materials*. In the fissioning process, neutrons are absorbed by uranium 238, thereby creating plutonium. In the same manner, thorium (Th 232) absorbs neutrons and thus uranium 233 is the result.

There are also *fission products*, which are elements resulting from the splitting of the fissionable material, mainly uranium 235 in the natural uranium. The most common and useful of these are strontium 90 and cesium 137.

Seemingly, there is no precedent for the proper treatment of the revenues resulting from the sale to the Atomic Energy Commission of the new fuel materials produced by a reactor. If the facts were at all comparable with those known to result from the manufacture of artificial gas in the course of which by-products are produced and sold, or in the case of extraction of useful material from natural gas, precedent and authority for the proper treatment or classification of the resulting revenue are to be found in the Uniform System of Accounts for gas utilities. However, I am compelled to question whether the facts are at all comparable. In the case of either manufactured or natural gas, the utility is the owner of the original and source material. In the case of the nuclear fuel supplied by the Atomic Energy Commission, that commission remains the owner under the Atomic Energy Act of 1954. Therefore, is it not logical to assume that the commission is the owner of the new fuel materials since they cannot be sold to another under existing law? An obligation is imposed upon the electric utility to deliver such new fuel materials to the Atomic Energy Commission at prices to be prescribed by that commission. Viewed from this standpoint, cannot the electric utility be said to have rendered a processing service rather than the sale of a product resulting from the fissioning of the original fuel?

EVEN more basically, we are confronted with the question of treatment of payments or credits by the Atomic Energy Commission upon the return of the new fuel materials produced during reactor operation. Is the consequence a reduction of fuel expense or revenue, and if revenue, should it be classed as utility revenue or nonutility revenue? This entire matter is now under consideration by a committee representing industry and regulatory agencies.

The contracts entered into by the Atomic Energy Commission and the several electric utilities may provide basis for a different treatment. Eventually, the answer must be governed by a proper construction of the agreement between the Atomic Energy Commission and the electric utility, and an understanding of what actually occurs during the fissioning period. Its classification must rest upon that determination. At the expense of being presumptuous, it would seem logical to classify the revenue resulting from the fissioning process which creates new fuel materials as nonutility revenue. On the

basis of the known facts, the new fuel materials result from a service by the electric utility to the property of the Atomic Energy Commission.

Here a word of caution seems justified. I doubt that at this time reliable fuel cost estimates can be made and electric rates established upon the basis of cost. This must await the time when we can say with certainty what the dollar figure is that reflects the true cost of producing the fuel elements. If the charge by the Atomic Energy Commission can be said to represent "actual cost," then greater reliability can be placed upon the stated cost of producing electric power.

Since it is known that in the operation of any reactor an inventory of fuel will have to be available so as to replace the spent fuel in the reactor, is that inventory to be classified under "Materials and Supplies," and treated as in the case of coal inventory under the present system of accounts, and at what sum should it be carried?

Disposal of Waste

THE existing state of research and development in the waste disposal field, in so far as I have any knowledge, does not afford any factual basis for a clear answer as to the equipment and costs that may be involved. Therefore, the proper accounting treatment, at least in my opinion, must await the determination of the means to be selected, and the real cost of producing electricity cannot be arrived at in the absence of a solution to the problem. Its classification and place in the Uniform System of Accounts must also be delayed.

Costs of Meteorological Observation

THE purpose of meteorological observation is obvious, I am certain, and its cost can be justified as an essential precaution to which the public is entitled. Should this cost be treated as a cost comparable to that presently incurred in obtaining weather reports, or should it be classified as security protection?

Cost of Purifying Cooling Water

WE may expect that the several states will insist upon the practical elimination of radioactive material before permitting the return to public waters of cooling water used in the reactor cycle. The method employed may prove to be an expensive one, of short life, and require constant policing. How is this cost to be classified? Applying the practice used for conventional power plant purification systems, such costs would seem appropriately reflected in the pertinent capital and operating accounts.

Cost of Training and Protection Of Operating Personnel

IN the early stage of nuclear power development, a utility which may be responsible for the operation of the reactor, including fuel handling and storage, disposal of waste, return to the Atomic Energy Commission for reprocessing of spent fuel elements, and the other related functions of reactor operation as differentiated from conventional generating plant operation, certainly will, of necessity, expend funds for educating and training personnel in order to qualify them for licenses to operate. So also will costs be incurred for monitoring, decontamination, and precautionary measures aimed at the health, safety, and protection of the operating personnel and the physical plant itself as distinguished from the responsibility to safeguard the public and the surrounding area. Should not these costs, which are an extension of those normally encountered in conventional plant operation and are reflective of the more complex nuclear technology, be likewise recorded as operating expense, and thus included in the cost of producing electricity?

Proper concern for employee health, safety, and protection should be uppermost in utility management thinking, and rightly so, for even though scientists and technologists have made remarkable progress in the nuclear field and are continually discovering new facets of nuclear energy, the medical profession, as yet, cannot provide all the answers with respect to body chemistry and how humans are affected by exposure to radiation.

Local Taxes on Fuel Elements

UNTIL the Congress of the United States amends the Atomic Energy Act of 1954, ownership of the fuel will remain with the Atomic Energy Commission. I know of no consent that Congress has given to per-

mit the taxation of these fuel elements by local units of government. If the charge made by the Atomic Energy Commission is to be regarded as a rental or service charge, should such rental or service charge be subject to state or local taxes?

Abnormal Insurance Costs

I BELIEVE it may be assumed that during this trial period the cost of insurance will be abnormally high when compared with the cost of similar insurance experienced in the case of conventional facilities. Should the cost be normalized under some plan? Should it be treated as conventional insurance? It occurs to me that here again we may have to suspend our judgment until such time as the premium charged reflects the actual experience of operating reactors over a period of years.

Until the premium reflects the risk assumed, the cost of operation cannot be established with accuracy.

Transportation of Fuel

ORDINARILY, this would not pose a problem. To determine its proper classification, reference to the agreement between the Atomic Energy Commission and the electric utility will perhaps afford the answer. If the cost of the transportation is included in the charge made by the Atomic Energy Commission for the use of the fuel and it is buried in that charge, there perhaps is no problem at all.

Recommendations

BECAUSE of the "unknowns" that I have singled out, and others that exist but which time does not permit me to explore with you, I think it only fair to say that a considerable time must elapse before true costs are developed and rates for electric energy can be established as the result of operating one or more reactors. Such costs cannot be expected to reflect normal operation of a utility because, and I state this purely as a fact and not as criticism of the philosophy expressed in the Atomic Energy Act, they do not reflect competition in the production of the fuel used. Until competition enters the field of producing, processing, and reprocessing the spent fuel, the traditional normality under our system of private enterprise will not prevail and therefore it cannot be said the cost figures, whatever they may be, reflect normal operating conditions.

IN the meantime, it would seem to me that the regulatory authorities should have the benefit of the same scientific advice and information that is available to management before reaching any final conclusion upon the many questions of what constitutes proper accounting under these circumstances. It seems equally clear that management has the correlative responsibility, subject to any restrictions on classified information, to make available to the regulatory authorities all relevant information during the research period as well as after these, and undoubtedly many more, accounting problems have been resolved.

Problems Created by Memphis, Sierra, and Mobile Decisions

BY WILLIAM S. TARVER*

JUST a year and a half ago tomorrow the United States Supreme Court decided two cases which, in their later judicial application —or misapplication—by a single circuit court of appeals, threaten to overturn long-established and accepted methods of rate regulation by the Federal Power Commission and have posed a very serious threat to the economic health of the natural gas pipeline industry. These were the Mobile[1] and the

*General attorney, Southern Natural Gas Company, Birmingham, Alabama.

[1] United Gas Pipe Line Co. *v.* Mobile Gas Service Corp. (1956) 350 US 332, 12 PUR3d 112, 100 L ed 373, 76 S Ct 373.

Sierra[2] decisions. Both, on their faces, are of limited applicability but, as construed by the United States court of appeals for the District of Columbia circuit in the Memphis case,[3] have enormous economic impact.

The facts in the Mobile and Sierra cases were simple and calculated to enlist the sympathy of the court on behalf of the purchasers. Mobile Gas Service Corporation, a distributor of natural gas to domestic and industrial consumers in Mobile, Alabama, was, and is, supplied at wholesale by United Gas Pipe Line Company with all of its natural gas. In 1946 the Ideal Cement Company planned to construct a plant in the city of Mobile if it could obtain a supply of industrial gas at a sufficiently low rate. The Mobile company, therefore, made a special ten-year contract with United for the purchase of gas at the equivalent of 10.7 cents per Mcf for resale to Ideal. This rate was substantially lower than that for the other gas sold by United and was established by United to attract the additional business. Mobile, in turn, executed a ten-year contract with Ideal to supply the latter with gas at 12 cents per Mcf.

UNITED filed its special 10.7-cent contract with the commission as its rate schedule for the sale to Mobile for resale to Ideal. Then in June, 1953, without the consent of the Mobile company, United filed a new rate schedule with the commission which purported to increase the rate on gas for resale to Ideal to 14.5 cents per Mcf, a rate substantially higher than that which Mobile could, under its contract, charge Ideal. Mobile petitioned the commission to reject United's filing, claiming that United could not thus unilaterally change its contract rate. The commission denied the petition.

Sierra Pacific Power Company distributes electricity to consumers in northern Nevada and eastern California. For many years it has purchased the major part of its electric power from Pacific Gas and Electric Company. In 1947 it began negotiating for power from other sources. To forestall the potential competition, PG&E offered Sierra a 15-year contract at a special, low rate, which Sierra accepted.

In 1953, when power from former competitive sources was no longer available, PG&E, without the consent of Sierra, filed with the commission a schedule to increase its rate to Sierra by 28 per cent. Again, the commission denied a petition to reject the filing of the increased rate.

DURING the litigation of both cases the commission asserted the view, which it had held for a number of years, that § 4(d) of the Natural Gas Act and § 205(d) of the Federal Power Act established procedures by which rates fixed by contract for specified terms could be changed by the sellers by filing new rate schedules, which, then, of course, would be subject to suspension and review by the commission. It was the commission's position that rate contracts could thus be changed without the buyer's contractual assent.

In both cases the Supreme Court decided to the contrary, holding that neither the Natural Gas Act nor the Federal Power Act abrogated contracts or gave regulated companies the right to change their rate contracts by their own unilateral actions.

In the Mobile case, the court added that its conclusion did not leave a natural gas company without an avenue of relief. Noting that § 5(a) of the Natural Gas Act authorizes the commission to investigate rates upon its own motion, the court stated that a pipeline company, although without standing to complain formally under that section of its own contracts, nevertheless might furnish the commission with relevant information and request it to initiate an investigation of a rate contract, after which the commission, upon determining the contract rate to be so low as to conflict with the public interest, could authorize the company to file a schedule increasing the rate. Of course, the commission would not be required to undertake such an investigation.

IN its Sierra decision the Supreme Court amplified its concept of what rates would conflict with the public interest. Such a rate, it said, is not necessarily a rate which does not yield a fair return, but is a rate which is so low that it may impair the financial abil-

[2] Federal Power Commission *v.* Sierra Pacific Power Co. (1956) 350 US 348, 12 PUR3d 122, 100 L ed 388, 76 S Ct 368.

[3] Memphis Light, Gas & Water Division, City of Memphis, Tennessee *v.* Federal Power Commission (1957) 21 PUR3d 209, 250 F2d 402; cert. granted, 355 US 938.

ity of the company to continue service, cast upon other consumers an excessive burden, or be unduly discriminatory.

With these two cases as the only basis for its action, the District of Columbia circuit, nine months after the Mobile and Sierra decisions, held in the Memphis case that even though a purchaser of natural gas had contractually agreed that the seller might file a changed rate with the Federal Power Commission, the commission had no jurisdiction to receive or to review the new rate unless the seller brought to the commission a negotiated agreement expressing the buyer's assent to the particular rate filed.

This decision astonished and stunned both the pipeline industry and the commission. Both had been confident that the general type of service agreement involved—a type formulated under the commission's guidance and in general use for a number of years by all pipeline companies subject to the commission's jurisdiction—insulated the great bulk of the industry's sales for resale from the Mobile case holding. All service agreements of this general type had been viewed as establishing contractual arrangements for the sale of gas at whatever price might be contained in the seller's applicable rate schedule on file and effective from time to time. And it had been generally thought that the parties intended, and the law permitted, the rate to be changed by the seller without further assent of the buyer and the changed rate to be filed under § 4(d) of the Natural Gas Act and thus become effective, subject only to the power of the commission to suspend, review, and modify it.

THE Memphis case arose during a proceeding before the commission on a general rate increase filing made by United on September 30, 1955. While hearings before the commission were in progress, the Supreme Court decided the Mobile case on February 27, 1956. The city of Memphis, its utility operating division, and Mississippi Valley Gas Company thereupon moved that United's rate filing be rejected, contending that the Mobile decision required such action. The commission denied the motion, holding the Mobile decision to be inapplicable since the service agreements contemplated rate changes by the seller and the filing of changed rate schedules under § 4(d) of the act. Memphis and Mississippi petitioned for judicial review.

The rate contract, if such it can be called, which was involved in the Memphis case was United Gas Pipe Line Company's standard form of service agreement, used generally by that company and by a number of others. It provided for payment under "Seller's Rate Schedule ....., or any effective superseding rate schedules, on file with the Federal Power Commission." Although the service agreements used throughout the industry vary considerably in wording, all are modeled on the same general lines as United's. The pattern is to refer to and incorporate by reference the company's applicable rate schedule in its effective FPC gas tariff and to provide that, if such schedule should be changed by a new schedule being filed by the seller with the commission and being permitted to become effective, payment then would be made under the changed schedule.

CONSTRUING United's service agreements, the circuit court accepted for purposes of its decision the commission's view that the agreements expressed the contractual consent of the buyers to the filing by United of new rate schedules under § 4(d). But the court said that consent to the "act of filing" is not sufficient; there must be agreement between buyer and seller as to the exact rate filed. The participation by the buyers in the commission proceeding in opposition to United's rate increase constituted proof to the court that the buyers had not consented to the amount of the new rate. Therefore, said the court, the agreement was nothing more than an attempt to vest the commission with arbitration powers not given to it by the act.

The commission, United, Texas Gas Transmission Corporation, and Southern Natural Gas Company, the last three of which had intervened in support of the commission, filed petitions for certiorari which were granted by the Supreme Court. Decision of the case is now awaiting completion of briefing and oral argument.

If the circuit court's words are to be accepted literally, no increased rate can be filed by any interstate natural gas pipeline company (all such companies being bound by long-term sales contracts) unless the purchaser has agreed in advance to the exact rate. Since the commission's rules long have

prohibited escalation provisions in pipeline company sales contracts and permit provisions for rate changes only when similar to that contained in United's service agreements, this holding, in practical effect, wrote § 4(d) out of the act for the entire natural gas pipeline industry. Only if a company could persuade its customers, to which it was obligated by law to continue service, voluntarily to agree in advance to higher rates could it make a filing under § 4(d).

To appreciate the impact of this decision on the natural gas pipeline industry, one must view it against the background of the economic epoch in which the decision was rendered.

The pipeline industry has experienced phenomenal growth during the past twenty years—growth largely made possible by the facts that natural gas is a superior fuel for many purposes, and also, in the past, has been available at bargain prices. The greatest period of growth has been during the years following World War II and especially since the Korean War.

DURING this period of greatest growth, the rapid increases in costs which have occurred have been offset only in part by economies resulting from the handling of increasingly greater volumes of gas. As a result, costs per unit of gas sold have risen steadily. This trend is continuing, because of continuing increases in prices of materials and cost of labor and particularly because of the necessity of replacing old, low-priced gas supplies with new supplies which can be purchased only at prices which sometimes are three times as great as such supplies commanded ten years ago.

Thus, even if a pipeline company were inclined to disregard the demands upon it—frequently of an urgent nature—to expand its system and so increase its service, the necessity of paying higher maintenance and operating costs, of replacing worn-out materials, and, primarily, of augmenting depleting gas supplies with higher-priced gas, would make rate increases inevitable.

Because of these economic conditions, every major pipeline company has had to seek rate increases, sometimes repeatedly, by making filings under § 4(d) of the act whenever necessary to keep revenues in balance with costs.

THE Memphis case, if affirmed by the Supreme Court, would bring an abrupt halt to this procedure. Additionally all pending rate increases would have to be dismissed and all moneys collected under changed rates not yet final would have to be refunded. Only the course of future litigation could determine whether revenues collected under increased rates finally allowed by the commission, but not agreed to by the buyers, would have to be refunded.

The dollars-and-cents measure of the immediate danger which thus threatens the industry because of the Memphis decision can be brought into focus by consideration of a few statistics. As of June 30, 1958, there were 53 rate increase cases instituted by 35 pipeline companies pending before the commission. These involved increases of $211.5 million per year. Some have been pending since 1954 and most are being collected subject to refund. The amounts so collected total approximately $322.2 million. All of this presumably must be refunded if the circuit court's Memphis decision is sustained by the Supreme Court. The 1957 annual utility income, plus total other income of the pipeline companies which have rate increases pending, was $375 million, an amount only slightly in excess of the total refunds which would be required of the group. Should it later be held that, because of lack of customer agreement, buyers can go behind rates which have been allowed by the commission, the amount of money at hazard would be many times the amounts mentioned.

I SHALL not attempt to predict the immediate effect of affirmance by the Supreme Court on any particular company. Obviously, on some it would be extremely severe or even disastrous. Others, more fortunately situated, would have lesser immediate problems. But, unless the inflationary trend of the last decade is not only halted, but drastically reversed, all would be faced by a continuing serious problem in obtaining revenues sufficient to defray costs.

In the past it has been possible to meet this need for increased revenues by filing new rates with the commission under § 4(d) of the act, with certain knowledge that the new rates could be made effective six months after filing, subject to refund, and with reasonable assurance that at least a substantial portion

of the increase would become effective on a permanent basis after commission review.

Under the Memphis case ruling this would no longer be possible. No longer could pipeline companies or the investors in their securities have confidence that rates would keep pace roughly with costs. If rates can be increased only by agreement between buyer and seller, which thereafter must run the gamut of critical commission examination, or by the doubtful expedient of a § 5(a) investigation with the setting aside of the old rate and the granting of permission to the company to file thereafter new rates which would be effective only prospectively, the pipeline companies will face many and serious problems in keeping financially healthy and abreast of the public's demand for more service.

It has been suggested by some that events since the Memphis decision have proved this prediction unfounded. They cite rate case settlements reached by some companies with their customers and also agreements by customers of pipeline companies to pay higher rates in the future upon pipeline capacity expansions.

To my knowledge only six companies (two of them quite small) have been able to settle pending rate cases by agreement of their customers, and only five have obtained from substantial numbers of their customers precedent agreements specifying increased future rates. Each of such precedent agreements, of course, covers only a single rate increase and all of the precedent agreements negotiated by one pipeline company are limited to sales for one year of incremental volumes of gas made available as a result of an expansion of the pipeline's capacity. When one considers that there are 35 pipeline companies with rate increases pending before the commission and many with expansion plans which have been shelved or drastically curtailed because of the Memphis decision, this is scarcely an impressive record. Indeed, a number of companies, despite vigorous efforts to settle rate cases, have been unable to do so.

In my opinion, all of the rate settlements which have been reached since the Memphis decision have been made possible by three factors: (1) the chance that the Memphis decision will be reversed by the Supreme Court; (2) complications which would have resulted if increased rates were put into effect subject to refund (the commission having properly refused to follow the Memphis case ruling pending conclusion of the litigation); and (3) the urgent desire of the distributors for new gas supplies which would not be available to them without expansion of pipeline capacity made possible by higher rates.

How these three elements should be weighted in particular situations I do not know. But of this I am certain: In the usual case, the pipeline company will not obtain general agreement by its customers to pay higher rates unless that is the only way the customers can be assured of increased gas supplies, or unless the company is so plainly on the verge of financial disaster as to jeopardize continuation of any service.

The commission recognized this in its Opinion No. 308, in the El Paso case,[4] stating:

> . . . there is almost no economic incentive for a customer to agree to pay higher rates if it is satisfied with its service and does not need additional supplies or expanded service. On the other hand, if the requirements of a customer are expanding, it must ask the pipeline to meet those needs, and, therefore, it could be forced to agree to a rate increase, although this situation does not prevail among all customers of all pipelines by any means.

This statement suggests the question: What would be the legal situation if some customers of a pipeline agreed to a rate increase and some did not?

Clearly, in a § 4 case, the increased rates could be accepted by the commission for filing only as to those customers who had agreed to pay such rates. What, then, becomes of the act's proscription of undue discrimination or preference? In such a situation, would the difference in rate offend the statutory standard? And if so, what is the remedy? Should the commission reject the agreed-upon rate increase filing because the new rate would not apply equally to all similarly situated? Or should it institute § 5(a) hearings to determine whether those who had not

[4] Re El Paso Nat. Gas Co. (1958) 19 FPC 154, 21 PUR3d 453.

agreed to the higher rate were enjoying undue preferences? These questions so far stand unanswered. Yet they are of vital importance.

My own opinion is that the commission would have no practical alternative but to accept, subject to suspension, review, and modification, such increased rates as had been agreed to, and institute § 5(a) investigations as to the rates being paid by the customers who had not agreed. To do otherwise would be to expose the pipeline company to irreparable financial harm, for a general § 5(a) investigation is not and cannot be the answer to the problem.

One statement relating to the applicability of § 5(a) made by the chairman of the commission in a speech before the New York Society of Security Analysts, delivered a little more than a month after the circuit court decided the Memphis case, has been widely quoted and warrants comment. He said:

> I suspect that we may find that a rate case under § 5 can be processed in much shorter time than was ever thought possible. We know that in such a case, the pipeline company would supply all the data that our staff would request, as soon as it possibly could. When the customer companies realize that additional supplies of needed gas cannot be forthcoming until the pipeline company is first granted reasonable rates, it would seem that they would likewise co-operate to bring the case to a speedy conclusion. The commission and its staff will, I know, do everything they can to expedite their work, so that our economy will not suffer unnecessarily, and to the end that the public will get the increased natural gas service it requires.

THIS statement has been cited by a few representatives of consumer interests as an indication that general rate increases via the § 5(a) route are feasible after all.

A short answer is that the commission has not yet devised a method of processing, in less than a period of many months or even years, any general rate case, whether under § 5(a) or under § 4, even though the law, itself, enjoins preferred handling of § 4 cases.

The circumstances existing at the time of the chairman's speech explain its tone. The Memphis decision has just been handed down. Plans for many millions of dollars of construction had been shelved. The financial community was much disturbed. Financial houses and investment counselors had ceased recommending purchase of pipeline company stocks. Confidence in the securities of such companies was at a low ebb. What the chairman was doing was attempting to allay to the extent he properly could the fears of investors by assuring the influential security analysts that the commission would do what it could to make the best of a bad situation. Indeed, he prefaced the statement which I have quoted with the proverb that "necessity is the mother of invention" and by exhorting his listeners: "Let us all do our part in a great effort to keep the natural gas industry alive, strong, and growing."

Does such an appeal sound as if he thought that § 5(a) provided a satisfactory means of meeting the industry's rate problems?

Later in the same month as that in which the chairman delivered his speech, the full commission handed down its Opinion No. 308 in the El Paso case, more accurately stating the relation of § 5(a) to the Memphis case problem in these words:

> Under the § 5(a) process which seems contemplated for widespread application by Memphis, the present efficient co-ordination of expansion and reasonable rates on a current basis is not possible. Pipelines cannot obtain the necessary capital when investors are not confident that a sufficient return will be earned to meet increased costs that have been incurred. . . .

AND how could investors be confident that a sufficient return would be earned if only § 5(a) were available as a vehicle for obtaining rate increases? It is perfectly obvious from the words of § 5(a) that that section was never intended by the framers of the Natural Gas Act to provide the mechanism for obtaining rate increases. Section 4 by its terms was plainly intended to cover that situation. Section 5(a) furnishes the commission its authority to investigate already effective rates and, in proper cases, to lower them. This was the obvious statutory scheme. The suggestion by the Supreme Court that § 5(a) might be utilized by the commission to set aside rates so low as to conflict with the public interest and to authorize the filing of

higher ones, never was intended to have general application.

Indeed, the standard set up by the Supreme Court—"conflict with the public interest"—does not even appear in the act. And bear in mind that a pipeline does not have status to lodge a formal complaint under § 5(a), let alone assurance in any particular case that the commission would entertain its informal request for an investigation, and remember also that throughout its history the commission has not yet been able to handle rate cases with sufficient expedition to make feasible a system which would delay the effectiveness of increased rates until after final commission decision as to their reasonableness.

I DO not intend this as criticism of the commission—a pipeline rate case is a complicated affair and for reasons already noted there are many of them. But efficient regulation of natural gas pipelines requires that a method of quick rate relief be available so that the regulated company, limited to a modest return on its property, can be protected against increasing costs, as well as a method by which the interest of the public in gas at reasonable rates can be safeguarded by assurance of refund of excessive rate exactions for the period during which the commission is considering whether the new rates are too high. Section 4 protects both the pipeline and the consumer, while recognizing that fair and proper resolution by the commission of the complicated issues existing in all pipeline rate cases takes considerable time.

If increased rates were to be effective only prospectively, as would necessarily be the case under § 5(a), the commission, perforce, would have to rely mainly on estimates of future conditions in order to do even approximate justice to the pipeline companies. Such estimates might be far too high. Conceivably, also, they might be too low. In either case, they would not usually furnish a satisfactory basis for fixing just and reasonable rates.

Although I think it likely that neither the expedient of obtaining customer agreements to higher rates, nor such relief as might be possible under § 5(a), would be adequate in the long run to enable the industry to undertake the expansion demanded by the public's appetite for increasing gas supplies, or even to allow it to remain financially healthy in the absence of expansion, I do not thereby conclude that the picture is entirely black.

Because I am convinced that the Memphis case rule represents bad regulation in principle and in result—bad for the pipeline industry, bad for the producer whose interstate market will diminish under its restrictions, bad for the distributor who will not get the supplies of gas he needs to service the country's growing cities, and bad for the consuming public—I think that, if the Memphis case is affirmed by the Supreme Court, Congress will provide a remedy. The commission already has recommended corrective legislation. Moreover, it is inconceivable to me that a decision of such demonstrably injurious impact would be allowed to stand.

MEANWHILE, if the Supreme Court should affirm, some companies would be hurt. Speaking in generalities, these would be companies which either are now critically in need of rate increases or are faced with refunding large sums collected under rates not agreed to by customers, or both, and whose customers are not now in much need of additional gas supplies. If by chance the Memphis doctrine were extended to rate increases previously allowed by the commission, the injury would be greater.

As I have stated, a few companies have negotiated rate settlements with their customers, or agreements for higher rates upon completion of system enlargements, or both.

By acting during the interim situation when the state of the law is unknown, these companies have, to some extent at least, provided for their immediate corporate needs in the way of additional revenues, and some have provided for the needs of their customers for more gas with reasonable assurance that they will be able to recoup the costs incident to providing expanded service.

I think that, if the Supreme Court affirms the Memphis decision, a legislative remedy probably will have been forthcoming by the time these companies are in serious need of additional revenues. For it is reasonable to expect that the experience of those other companies which have been unable to negotiate agreements with their customers would by then have demonstrated the completely unworkable nature of the construction of § 4(d) imposed by the circuit court.

Canadian Natural Gas Situation and Its Bearing on Import, Export Problems

By HARRY S. WELCH*

Introduction[1]

THE Public Utility Law Section could grant to me no greater pleasure than the opportunity to talk with you a few minutes on a subject that has been the high light —indeed, the obsession—of my professional life for the last seven years.

It was seven years ago this month that I made my first trip to Canada to assist Canadian lawyers in the launching of a new gas pipeline project. After these many years, many thousands of miles traveled, and many, many professional bumps and bruises, I am still going to Canada and still enjoying every minute of it! It is indeed an honor to have had even a small part to play in the fruition of the great gas pipeline project of Trans-Canada Pipe Lines Limited, and to continue to work with the fine, capable management and lawyers of that company.

Royal Commission on Energy

THE most important phase of the Canadian natural gas picture today is the current endeavor of the Royal Commission on Energy, also known as the Borden Commission. That commission was created by an Order-in-Council of the Canadian Cabinet on October 15, 1957. It was assigned the formidable task, among others, of inquiring into and making recommendations concerning the policies which will best serve the national interest of Canada in relation to the export of energy and sources of energy from Canada; the problems involved in, and the policies which ought to be applied to, the regulation of the transmission of oil and natural gas between provinces or for export, including rates; the financial structure and control of pipeline corporations in relation to setting proper rates; and the extent of authority that should be conferred on a national energy board, should one be established.

The sources of energy falling within the scope of the commission's inquiry are gas, oil, coal, water, and uranium.

As you can imagine, the establishment of this commission caused quite a bit of excitement in the gas business, coming as it did at a time when Trans-Canada Pipe Lines' proposal to export gas into the midwestern United States was being heard by the Federal Power Commission of the United States and when applications were just being filed in Alberta for two new projects proposing export of substantial quantities of Alberta gas into the western United States. Especially was this true when Prime Minister Diefenbaker stated in Parliament that no action would be taken by the government on Trans-Canada's export proposal until the Borden Commission had made its recommendations.[2]

REQUESTS for an "interim" hearing and report on gas only soon poured in. On February 3, 1958, the Borden Commission commenced hearings on only the oil and gas phases of its assignment and shortly thereafter announced its intention eventually to render an interim report on those phases only. Hearings were thereafter conducted in all of the major cities of Canada and were concluded on the twenty-second of July in Montreal. At that time the commission announced that it would prepare an interim report on oil and gas and would not conduct any further hearings until after that report. In the meantime, Prime Minister Diefenbaker had stated in his campaign for re-election that if the Borden Commission Report justified export of gas, the government would not hold it up.[3] Also in the meantime, it was announced that it was definitely the intention of the government to establish a national energy board for Canada.[4]

The entire Canadian oil and gas industry is anxiously awaiting the commission's interim report. And rightly so, for it will cast the mold for the Canadian gas business for years to come.

Now, I cannot properly try to predict for you what that report will contain. Even if I

*Counsel, Trans-Canada Pipe Lines Limited, Dallas, Texas.

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could, I would not be so foolish as to run the risk of being wrong!

We can, however, profitably spend a few minutes reviewing the Canadian scene and the present posture of the gas business in Canada and see if we can draw from them some guides as to what the present and future hold.

The Changing Canadian Scene

SINCE World War II Canada has truly come of age as a world power. For a country of only fifteen and one-half million people[5] her progress in all fields has been nothing short of phenomenal.

In the field of international affairs, Canada has played and continues to play a major rôle, both economically and in constructive leadership, in the United Nations and in most of the free world's international efforts. Its contributions to the joint Canadian-U.S. program for defense of the North American continent are particularly significant.[6]

During the same period the whole economy of Canada has been growing and changing rapidly. In addition to very substantial growths in population, agriculture, industrial production, and other traditional areas of Canadian economic endeavor, there has been a tremendous increase in the activity of resources development industries, particularly with respect to hydroelectric power, iron ore, nickel, copper, uranium, aluminum processing, and petroleum. Along with this the Canadian economy has, of course, been undergoing substantial diversification, with manufacturing and resources development playing a much larger part and with agriculture playing a much smaller part in the total economy and with exports taking a significantly smaller percentage of the gross national product.[7]

Gas Reserves

PART and parcel of this development has been the development of the Canadian natural gas industry in the past ten years. Prior to that time proved oil and natural gas reserves were so small as to be significant only in the areas of production. Following the discovery in 1947 of the Leduc oil field in central Alberta, however, a true "oil boom" commenced in western Canada. Discovery of the large Pincher Creek gas field in the southern foothills of Alberta in 1948 placed natural gas squarely in the boom. Since that time oil and gas producers have poured over $3 billion into exploration, development, and producing operations in Canada.[8] As you all know, these efforts have been extremely successful.

Prior to the discovery of Leduc in 1947, the total proved gas reserves in Alberta were probably less than two trillion feet. The engineering firm of DeGolyer and MacNaughton has recently estimated proved gas reserves available for sale in Alberta at January 1, 1958, as in excess of 19 trillion feet. The staff of the Oil and Gas Conservation Board of Alberta gave a similar estimate as of the same date with an estimate of 21 trillion feet of "established" reserves.[9]

BY the most conservative standards, proved gas reserves have grown at the rate of two trillion feet per year over the past eight years; and this at a time when, as the oil and gas producers put it, "We weren't even looking for gas."[10] This growth rate of some two trillion feet a year is expected to prevail for some time into the future.

Various projections have been made with respect to the potential ultimate gas reserves to be discovered in Alberta and western Canada. These projections indicate reasonable expectations of from 60 to 80 trillion feet for the Province of Alberta[11] and a potential of possibly 300 trillion feet for the entire western Canadian basin.[12] Obviously, western Canada is now definitely established as one of the major gas areas of the Continent.

Pipelines—Existing and Proposed

THE Canadian gas pipeline business is also now definitely established. In addition to extensive construction of pipelines in Alberta, Saskatchewan, and northern British Columbia to serve the local markets with local gas, two new, long-distance pipelines will serve the remaining Canadian markets.

The Westcoast Transmission Company's 30-inch pipeline project from the Peace River area of northern British Columbia and Alberta south to Vancouver was completed and placed in operation in the fall of

1957. This project serves most of the economically accessible markets in British Columbia with northern British Columbia and northwestern Alberta gas.

The 2,300-mile pipeline project of Trans-Canada Pipe Lines Limited will be completed and placed in full operation by November of this year. This system, the longest in the world, extends from southern Alberta gas fields eastward through the Provinces of Saskatchewan, Manitoba, Ontario, and Quebec and will serve Alberta gas to the remaining population centers of Canada, including Regina, Winnipeg, Port Arthur, Fort William, Toronto, Ottawa, and Montreal.

When the Trans-Canada system goes into full operation this fall, virtually all of the economically accessible markets in Canada will be served with western Canadian gas.

In addition to this coverage of Canadian markets, there are at present two exports of gas from Canada to the United States. Westcoast Transmission Company is exporting substantial volumes of gas to Pacific Northwest Pipeline Corporation for use in meeting a substantial portion of its requirements in the states of Washington and Oregon. For several years now, Montana Power Company has been importing gas into Montana from southern Alberta for use in serving its markets in Montana.

Alberta has committed under permits for all existing projects serving markets outside of Alberta approximately six trillion feet, removable over the next twenty-five years at allowable maximum daily withdrawal rates aggregating approximately one billion feet. There has been no permit granted for a major project out of Alberta since the Trans-Canada permit for 4.35 trillion feet was granted in May of 1954. Discoveries have continued, however, and with each additional discovery the possibility of additional gas being declared "surplus" to the needs of Alberta has become more and more a probability.

As you might expect, this potentially "surplus" gas is not going begging. In fact, it is being pursued, like the farmer's beautiful daughter, by at least three suitors.

Westcoast Transmission Company Limited has applied in Alberta for a permit to remove a total of 1.3 trillion feet over twenty-five years at an average daily flow of 150 million feet. This is a new project not interconnected with the existing Westcoast facilities. It would extend from the southern Alberta foothills area south to tie into the Pacific Northwest Pipeline Corporation system, with the gas destined for southern California through a new line proposed by El Paso Natural Gas Company. The ultimate capacity of this 30-inch system out of Alberta would be 660 million feet per day.

Alberta and Southern Gas Company have applied in Alberta for a permit to remove a total of 4.2 trillion feet over twenty-five years at an average daily flow of 460 million feet. This project, sponsored by Pacific Gas and Electric Company, is the proposed 36-inch pipeline from the southern and western Alberta foothills area south to the San Francisco area. The ultimate input capacity of this system would be 880 million feet per day.

Both the Westcoast and the Alberta and Southern applications have been heard by the Conservation Board of Alberta and are pending decision. They will probably not be decided until after the Borden Commission issues its interim report.

In addition, Trans-Canada Pipe Lines has announced that it will soon apply for additional gas for expected increases in market requirements. As many of you know, there is now pending before the Federal Power Commission of the United States a proposal under which Trans-Canada would export 200 million feet of gas per day into the midwestern United States. Also, Trans-Canada's Canadian market requirements are expected to increase substantially over the next several years. Trans-Canada estimated to the Borden Commission and the Alberta Conservation Board that it will need, in the next five years, 25-year permits for an additional 6.2 trillion feet to serve the expected increased Canadian requirements and the proposed export market.

Facets of the Canadian Gas Picture

There we have in general the basic, raw facts. However, the picture of the changing Canadian scene in general and the development of the gas industry in particular is more than raw facts; it is indeed a "many splendored thing." It is a picture with

many facets. It has at least five important facets which must be considered in any appraisal of the Canadian natural gas situation.

First, the needs and desires of the gas producers have generated constantly increasing pressure for market outlets. The producers have invested staggering sums of money in exploration and development and want to market their gas as quickly as possible at the best price obtainable and move on to the discovery of new reserves. They have been frustrated in the realization of this desire for it is only now, some ten years after major discoveries, that the newly constructed, large pipelines will be able to take substantial quantities of gas. There is now tremendous pressure for additional markets and as more and more gas reserves are discovered, this pressure will continue to build up. The producers have support, too. The existing and proposed large pipelines, each in varying degrees, support export because each has export markets it desires to serve. The government of Alberta supports more export. By and large, the distributing companies do not oppose it. Indeed, there is a general recognition in the industry that additional sizable markets must soon be made available to encourage continued exploration and that export to the United States is necessary to supplement the Canadian markets.

A SECOND facet is the unique position occupied by the Province of Alberta. Probably 85 to 90 per cent of the present proved reserves of Canada are located in Alberta. Under existing law and policies in Canada, Alberta has the jurisdiction to determine whether or not gas is surplus to the needs of Alberta. Only after Alberta has determined that surplus gas exists can it be removed from the Province, even to serve Canadian markets. There have been those who questioned the "constitutionality" of Alberta's exercise of this jurisdiction. However, the question of constitutionality has not been litigated and the federal government of Canada has in the past recognized Alberta's position as a policy matter.

Heretofore, Alberta has permitted the Conservation Board to grant permits to remove gas only if it was "in the public interest to do so, having regard to the present and future needs of persons within the Province."[13] Under this provision the Conservation Board has in the past reserved for provincial needs specific fields of established reserves sufficient to meet the expected 30-year growing requirements of the Province plus sufficient reserves remaining during the thirtieth year to meet peak deliverability requirements for that thirtieth year.

THIS test, in effect, has required the reservation of specific, presently established reserves of from 140 to 155 per cent of the full 30-year requirements of the Province. As you can appreciate, this rather stringent requirement has reduced considerably the amount of gas which might otherwise have been available for the construction of pipelines from the Province of Alberta. "How," you say, "could this happen?" Why have not the lessors owning royalty risen up in mass and insisted upon markets or litigated the constitutionality of Alberta's policy? The quick answer to that question is that the royalty owner is the government of Alberta, for it owns the minerals under most of Alberta's lands.

However, in 1956 the Alberta statute was revised so that now the board is to regard not only the present and future needs of persons within the Province but also the "established reserves and the trends in growth and discovery of reserves of gas in the Province."[14] It will be interesting to see what test the Conservation Board will apply under this revised provision. If, for example, the board relies on trends and growth in discovery of reserves to in part meet the future requirements of the Province, additional proved reserves will be available immediately for removal from the Province.

THE third facet is a side effect of the tremendous general economic growth in Canada. Canada's unfavorable balance of trade with the United States has become increasingly unfavorable over recent years. During 1957, Canada imported from the United States over $1 billion of goods and services more than it exported to the United States.[15] This has caused genuine alarm among Canadians and Prime Minister Diefenbaker pledged, in his recent campaign for re-election, to correct at least partially the imbalance of trade between Canada and the

United States. One way to do this, of course, is to increase the export of gas to the United States.

The fourth facet is a growing sense of nationalism and national destiny in Canada. This nationalism is, it seems to me, a natural result of the tremendous growth and expansion of recent years and of Canada's increasing importance in the international scene. We have heard others say that this is "anti-Americanism." I do not believe this is so. It is simply "pro-Canadianism." Coupled with this "pro-Canadianism," however, is a determination to deal firmly with the United States in all problems arising between the two countries, and to make certain that we are aware of Canada's problems and that we do not continue to take her so much for granted.

THE fifth and last facet is a widespread awareness in Canada of the magnitude and importance of Canadian energy resources and the relative decline of the energy resources of the United States. Coupled with this awareness is a determination that Canada will not sell itself short by exporting needed energy to the United States. Canadians have studied in great detail the extent of their newly discovered sources of energy. They have also studied in great detail our Paley Commission Report,[16] and are well aware of our growing need, over the long term, to import many resources, including energy and sources of energy. They are planning their future so as to assure that Canada will retain enough energy to meet its reasonably foreseeable needs and that it will export only what is reasonably surplus. The most dramatic evidence of this planning is the existence of the Borden Commission and the proposal to establish a national energy board.

THESE as I see them are the main facets to the Canadian gas picture. How will they fit together? Which of them will be more important? Your guess is as good as mine. I do believe this, however: All of them will have some place in the ultimate solution. Thus, the pressure for export markets to furnish an outlet for capped reserves and the need for additional exports to the United States to help improve the balance of trade will have an influence favoring export. On the other hand, the determination of the government of Canada and Alberta to see that their own future needs are met will dictate a policy of caution. And, finally, the efforts of the producers, Alberta's position as royalty owner, and the growing nationalistic and independent feeling in Canada will dictate that there will be no "bargain basement sales" in Alberta or at the border and that Canada will get full credit in its overall relations with the United States for contributing valuable energy resources to the United States needs.

What Bearing?

WHAT bearing does all this have on import-export problems? Of course, it has a very decisive, all-important bearing.

First, will there be substantial quantities of Canadian gas available for export? For the long range, it appears that there will be sizable quantities available. It was predicted last year by the Royal Commission on Canada's Economic Prospects that by 1980 Canada will be consuming two trillion feet of gas per year and will have available for export to the United States one trillion feet per year.[17] That is the equivalent of five fully powered, 30-inch pipelines.

The short-range picture is not so clear, however. If both Alberta and Canada "opened the gates" and relied upon future discoveries to meet future Canadian needs, there would be enough proved reserves available to launch immediately all three of the proposed exports I have described. On the other hand, if Canada applies the same 30-year deliverability test that Alberta has applied in the past for determining what is surplus, there will be very little gas available for immediate export. The logical conclusion is that Canada will not choose either extreme, for neither would take into account all of the facets we have discussed. As to the final answer, we can only wait and see.

FURTHER, and probably more important, the declaration of a Canadian national energy policy will "clear the air." Both Canada and the United States will know, over the short and long range, what to expect in the way of terms and conditions under which gas will be available for import from Canada. The general "public interest" in Canada will

APPENDIX

have been declared. The groundwork will have been laid for close co-operation between the governments and governmental agencies of both countries in solving any problem, large or small, which may arise.

THERE are those who say that the United States will be at a disadvantage because we shall not have such a national energy board and such a declaration of energy policy, and that we must have additional legislation and possibly a treaty to deal properly with problems which may arise. Whether or not this will be so, I think, depends upon how well we use the tools we have in the Natural Gas Act and in the inherent powers of the President and how we approach the subject of imports.

Surely Congress, by placing exports and imports in a separate section of the Natural Gas Act and providing a different standard for the issuance of permits, must have intended that the broad public interest be considered. Further, the requirement in the President's Executive Order Number 10485 that favorable recommendations must be obtained from the Secretaries of State and Defense prior to issuance of presidential permits must have been for the purpose of making certain that international relations and national defense be taken into account.

IT seems to me that these provisions give the Federal Power Commission, acting in conjunction with the executive branch of the government, all the power it needs to determine the broad public interest of the United States and to deal properly with imports and exports. Especially is this so if the problems are approached in both countries in the light of our long friendly relations and with regard to the well-being of both countries. As the late Chief Justice Charles Evans Hughes said when, as Secretary of State, he addressed the Canadian Bar Association at Montreal in 1923: "We rejoice in our long friendship and in permanent peace and it would be a shortsighted view that either of us has any real interest which is to be promoted without regard to the well-being of the other and the considerate treatment which conditions good will."[18]

Footnotes

[1] The views herein expressed are the personal views of the speaker and are not to be construed as the views of any client he may represent.

[2] Official Report, House of Commons Debates, October 31, 1957, pp. 596, 597.

[3] Snell, 2,300 Attend Calgary Rally, *The Calgary Herald*, March 15, 1958.

[4] Statement of the Minister for Northern Affairs, before a committee of Parliament, June, 1958.

[5] 1955 Census.

[6] Livingston T. Merchant (U. S. Ambassador to Canada), U. S. Relations with Canada, 38 *Dept. of State Bull.* 999, 1001 (June 16, 1958).

[7] Royal Commission on Canada's Economic Prospects, Final Report (November, 1957), Chapter 5.

[8] E. D. Loughney, "A Producer's View of Natural Gas," an address to the Canadian Gas Association annual meeting, June 25, 1958.

[9] Submission by the Oil and Gas Conservation Board of Alberta to the Royal Commission on Energy, Calgary sittings, February, 1958. "Established reserves" is defined by the Alberta Conservation Board as "reserves of disposable gas which in the opinion of the board may be reasonably counted upon." This concept includes proved reserves and a judgment portion of probable reserves, as these are commonly known in U. S. practice.

[10] See, for example, E. D. Loughney, *supra*, Note 7.

[11] Submission identified *supra*, Note 9.

[12] Submission of Canadian Petroleum Association to the Royal Commission on Energy, Calgary sittings, February, 1958. The Western Canadian basin includes the sedimentary basin spanning Manitoba, Saskatchewan, Alberta, northern British Columbia, Yukon Territory, and Northwest territories.

[13] The Gas Resources Preservation Act, Chapter 2, Stats of Alberta, 1949 (2nd Session), § 7.

[14] The Gas Resources Preservation Act, 1956, Chapter 19, Stats of Alberta, 1956 (2nd Session), § 8(3).

[15] Livingston T. Merchant, *op. cit. supra*, Note 6.

[16] President's Materials Policy Commission, Resources for Freedom, Report to the President (Washington, 1952, five volumes), William S. Paley, chairman.

[17] Royal Commission on Canada's Economic Prospects, Final Report, p. 134.

[18] Chacko, The International Joint Commission (1932), p. 21.

Regulatory Problems Arising in Connection with the Adjustment of Rail Passenger Service

By CHARLES W. BURKETT, JR.*

One of today's great challenges to railroad management is the taking of steps to alleviate the increasing losses incurred in the operation of passenger trains. Since the primary cause of these losses has been declining patronage as brought about by the transportation revolution in passenger travel of the last thirty years, it is inevitable that one of the steps taken by management to meet the challenge should consist of adjustments of service through discontinuance or consolidation of trains. I think it is fair to say that railroad management determines to make such adjustments only when experience has demonstrated that there is no practical way of increasing patronage on the particular trains and it is abundantly clear that the trains in question are operated at actual out-of-pocket losses. It is the regulatory problems inherent in bringing about these discontinuances or consolidations which I shall here discuss.

My personal experience with these problems has been limited to the western states in which Southern Pacific Company operates, and accordingly my discussion will to some extent be confined to the problems as they there exist, although it is apparent that they have a definitely national pattern.

Jurisdiction of Regulatory Commissions

It is indeed timely to be considering here today the jurisdiction of regulatory commissions over passenger train discontinuances, because of the substantial changes effected in the jurisdiction by certain provisions in the Transportation Act of 1958, signed by President Eisenhower into law on August 12, 1958. Prior to this legislation the Interstate Commerce Commission, although possessing plenary jurisdiction over the abandonment of any portion of a line of railroad, even though located entirely within the confines of a single state, had no jurisdiction over the discontinuance of passenger train service rendered by a railroad subject to its jurisdiction, regardless of whether that service had an intrastate or an interstate character.[1]

Thus, state commissions—and state commissions alone—had jurisdiction over passenger train service, and this jurisdiction extended not only to trains operating exclusively within a state but also to any intrastate service provided by interstate trains.[2] But when it came to the actual interstate service of an interstate train, the state commissions were without jurisdiction, and therefore it was not necessary for a railroad to secure any commission approval for the discontinuance of such service.

As a result of the Transportation Act of 1958, railroads desiring to discontinue interstate trains providing an intrastate service have an option of invoking the jurisdiction of either state commissions or the Interstate Commerce Commission. A railroad desiring to discontinue a train operating between a point in one state and a point in another state may follow the same procedure as previously, of securing no commission approval with respect to the interstate operation of the train, and securing whatever authority may be required from state commissions with respect to the intrastate operations of the train.

As an alternative, the railroad may file with the Interstate Commerce Commission a notice thirty days in advance of the proposed discontinuance of the interstate train. If the Interstate Commerce Commission takes no affirmative action, the railroad may proceed to make effective the proposed discontinuance as to intrastate as well as interstate service rendered by the train, "the laws or Constitu-

*General attorney, Southern Pacific Company, San Francisco, California.

[1] Palmer *v.* Massachusetts (1939) 308 US 79, 31 PUR NS 242, 84 L ed 93, 60 S Ct 34; Wisconsin R. Commission *v.* Chicago & N.W. R. Co. (1924) 87 ICC 195; Public Convenience Appl. of K.C.S. Ry. (1925) 94 ICC 691; Morris & Essex R. Co. proposed abandonment (1931) 175 ICC 49; New Jersey & N. Y. R. R. Co. passenger train operation (NJ 1956) 299 ICC 41; petition to enjoin order dismissed, Banta *v.* United States (DC NJ 1957) 152 F Supp 59, affirmed, 355 US 34.

[2] Alabama Pub. Service Commission *v.* Southern R. Co. (1951) 341 US 341, 90 PUR NS 308, 95 L ed 1002, 71 S Ct 762.

tion of any state, or the decision or order of, or the pendency of any proceeding before, any court or state authority to the contrary notwithstanding."

Upon the filing of this notice, the Interstate Commerce Commission, however, has authority, either upon complaint or upon its own initiative without complaint, to institute an investigation of the proposed discontinuance. That commission also has authority, between the filing of the notice and ten days prior to the effective date of the proposed discontinuance, to require the train to be continued in operation pending hearing and decision in such investigation, but not for a longer period than four months beyond the original effective date of the proposed discontinuance.

If, after a hearing in the investigation, whether it be concluded before or after the discontinuance may have become effective, the commission finds that the operation of the train "is required by public convenience and necessity and will not unduly burden interstate or foreign commerce," the commission may require the continuation or the restoration of the service for a period not to exceed one year. Upon the expiration of this one-year period the railroad may again attempt to discontinue the operation of the train by invoking the jurisdiction of either state commissions or the Interstate Commerce Commission.

THE Transportation Act of 1958 also has a provision affecting the operation of trains wholly within the boundaries of a single state. Where the state commission has denied an application for authority to discontinue the operation of trains wholly within the state, or has not acted finally on such an application within 120 days after its presentation, the railroad may petition the Interstate Commerce Commission for authority to effect the sought discontinuance. That commission is empowered to authorize the discontinuance if, after a full hearing, it finds "(a) the present or future public convenience and necessity permit of such discontinuance" and "(b) the continued operation . . . will constitute an unjust and undue burden upon the interstate operations of such carrier . . . or upon interstate commerce."

All of the aforesaid provisions of the Transportation Act of 1958 apply to the operation of ferries as well as trains, and relate to changes in as well as outright discontinuances of service.[3]

Evidence to Be Presented by Utility

THE evidence to be presented by a railroad in train discontinuance proceedings before state commissions is generally directed to showing that public convenience and necessity no longer require the operation of the train service. The term "public convenience and necessity" in these proceedings has often been broadened so as to encompass the cost to the railroad of providing the service, as well as the use made by the railroad of the service and the availability and adequacy of other transportation facilities.[4] But, regardless of whether, as a matter of semantics, the term "public convenience and necessity" is so interpreted, the cost to the railroad of providing a train service is one of the accepted criteria of determining train discontinuance cases.

In three states the railroad's evidence may be confined to the cost of providing the train service. Texas and Kentucky have statutes requiring their respective state commissions to authorize a discontinuance when it is shown that the operation of a train is at a loss.[5] Tennessee has a statute requiring the public utilities commission to authorize discontinuance of a passenger train "when it shall be made to appear that for a period of twelve months or more, the direct operating costs of such train have exceeded the aggregate gross revenues therefrom by more than 30 per cent."[6]

The presentation of this same basic evidence before the Interstate Commerce Commission appears contemplated by the Transportation Act of 1958 at hearings on either an investigation of the proposed dis-

[3] Section 13a of Interstate Commerce Act, as inserted by § 5 of Transportation Act of 1958.

[4] Illinois Central R. Co. *v.* Illinois Commerce Commission (1951) 410 Ill 77, 101 NE2d 588, 590; Pennsylvania R. Co. *v.* New Jersey Pub. Utility Commissioners (1957) 48 NJ Super 216, 137 A2d 76, 81; Southern R. Co. *v.* Virginia (1955) 196 Va 1086, 86 SE2d 839, 841.

[5] Texas & N.O. R. Co. *v.* Railroad Commission (Tex 1949) 220 SW2d 273; Kentucky *v.* Illinois C. R. Co. (Ky Ct App 1957) 18 PUR3d 288, 299 SW2d 803.

[6] Louisville & N. R. Co. *v.* Hammer (1951) 191 Tenn 700, 236 SW2d 971.

continuance of a train between points in different states or an application to discontinue a train between points in the same state. The findings to be made by the commission in both of said proceedings pertain to the existence of public convenience and necessity and whether the continued operation of the train constitutes an undue burden on interstate commerce, and the most effective way to establish that burden is to show that the train is operated at an out-of-pocket loss.

The cost of providing a service—*i.e.*, its out-of-pocket loss—represents the amount by which the revenues yielded by the service fail to meet the out-of-pocket cost of providing the service. Actual revenues are readily obtainable from ticket collections and accounting records, but the costs, other than crew wages and fuel, can only be established on the basis of estimates. The making of these estimates requires extensive technical work, and for this and other reasons the scope of the cost items presented in passenger train discontinuance cases differs from railroad to railroad. Some railroads present an estimate of all out-of-pocket costs, such as maintenance of way and structure and traffic expense, which have been shown by experience to decrease when a train is discontinued. Other railroads show those costs attributable to the physical operation of the trains themselves, which costs are sometimes referred to as "above the wheel costs" and include such expenses as equipment repair and depreciation. Still other railroads show only a few selected expenses; *e.g.*, wages, fuel, and car-cleaning expenses.

EVEN the cost items to be presented by the same railroad may occasionally vary from proceeding to proceeding. For example, Southern Pacific Company generally presents a showing of full out-of-pocket costs, and yet in a recent application to discontinue a pair of New Mexico intrastate trains it presented only wages, fuel, and car-cleaning expenses. This was because, in that particular proceeding, the expenses from the three aforesaid items aggregated $296.68 a day and yet the revenues averaged only 21 cents a day.[7] With such disparity it was considered expedient to avoid the extensive testimony and argument which would necessarily be inherent in a presentation of full out-of-pocket costs.

Even when full out-of-pocket costs are shown, attempts are rarely made to appraise the adverse effect a passenger train operation may have upon freight train operations. And when known to exist, it is quite difficult to evaluate its exact effect. This sometimes can be shown to a degree by general statements by operating officers; however, the only way it can be measured specifically is by the making of a "redispatch" study, which is designed to determine the approximate benefits to be derived from a change in present operating conditions by studying the records of the train dispatcher for a selected time period and then redispatching all trains on the assumption that the changed conditions in question had been in existence. Not only is this a difficult and time-consuming chore, but it is necessarily provocative of extensive cross-examination by representatives of the railroad labor unions, who are ever present as protestants in these proceedings and usually possess a wide knowledge of the operating conditions affecting the dispatching of trains. In spite of these obstacles we did present that evidence in a proceeding in 1955 before the California Public Utilities Commission, which accepted it as showing "that important savings in freight operations time will result from a reduction in passenger service."[8]

THE use made of a train is easily developed and can best be shown on the basis of the average daily number of passengers over a year's period as developed from an actual record for the year or an appropriate test period. This is usually supplemented by showing the average number of passengers per day entraining and detraining at individual stations. The latter may prove invaluable in meeting the protests of an individual locality if it shows, as it often does, that only one or two persons per day are there using the train. It also provides an indication of the overall use the train is receiving from terminal to terminal. A more

[7] Decision, May 12, 1958, state corporation commission of New Mexico, Docket No. 400, discontinuance of daily local passenger service by Southern Pacific Company from Mt. Riley to Rodeo, New Mexico.

[8] Re Northwestern P. R. Co. (Cal) Decision No. 52991, Application No. 37294, May 1, 1956. Application of Northwestern Pacific Railroad Company to discontinue operation of passenger trains Nos. 3 and 4 between San Rafael and Willits and between South Fork and Eureka.

analytical method of demonstrating overall use is the development of the average passenger miles per train mile of the particular train.

The current use of a train can also be effectively compared with its use in corresponding years, showing, as it usually does, a consistently declining patronage. This decline can sometimes be vividly depicted in graph form.

THE service of other common carriers is established through the presentation of their published time schedules. A comprehensive compilation of these schedules by air and bus, as well as by rail, can often reveal such a frequency and availability of varied types of service as to persuasively demonstrate that the public would be but slightly affected by the proposed discontinuance. This evidence is often supplemented by comparisons of the fares by rail, on the one hand, and by the other common carriers, on the other hand. These comparisons, establishing —as they usually do—that air-line fares are little or no higher than first-class rail fares, and that bus fares are lower than coach rail fares, provide further evidence as to the effect on the public of the proposed discontinuance.

In addition, it is often possible to secure from other common carriers, and present in evidence, the number of persons patronizing their services. This evidence is useful in establishing a general public acceptance of these other services. It proved particularly so in a recent proceeding in which Southern Pacific was attempting to discontinue certain trains between two cities approximately 100 miles apart. We had presented evidence of various air-line schedules between the cities, but the protestants contended that the time required to get to and from the respective airports was so great that the air-line service could not be accepted as any practical substitute for the train service. I think we were able to meet successfully this contention by showing that the number of passengers using the air service was twice that of the passengers using all passenger train service between the two cities.

Aside from presenting the basic evidence respecting public convenience and necessity, it sometimes appears appropriate to present evidence on the overall financial condition of the railroad. This evidence may range from a mere showing of rate of return to executive testimony describing in detail why the earning requirements of the railroad compel all possible eliminations of out-of-pocket losses. The determination to present this evidence hinges upon several considerations, including the amount of loss in issue in the particular proceeding, the hazard that the evidence will lead to so much cross-examination as to prevent submission of the proceeding during the time assigned for hearings, and the attitude the particular commission would be expected to have to its presentation. In at least two states, New Jersey and Virginia, "the nature and productiveness of the corporate business as a whole" appear to be a required portion of the railroad's showing.[9]

Other evidence which is sometimes presented consists of testimony by representative shippers of substantial quantities of freight expressing their objection to the railroad's sustaining out-of-pocket losses in the operation of passenger trains, which must inevitably be made up by freight shippers in one form or another. The decision to present this evidence is determined by the same considerations I have referred to with respect to the evidence of the railroad's overall financial condition. If this evidence is presented, freight shippers have proven to be quite willing, if not eager, to appear and testify.

Contentions of Protestants

THE evidence of protestants in train discontinuance proceedings follows more or less a stereotyped form, consisting mainly of resolutions of city councils, chambers of commerce, and other civic associations that a train is "needed," and testimony by individuals to this effect. This testimony can sometimes be quite effectively met—as I have indicated—by showing that the average number of passengers entraining or detraining at a particular locality is actually very small. Cross-examination of persons appearing in an individual capacity will frequently develop that the only time the individual chooses to use the service is on the rare occasions when it is not convenient for him to use his private automobile or airports are closed by inclement weather; *i.e.*, that he only

[9] Pennsylvania R. Co. *v.* New Jersey Pub. Utility Commissioners (1957) 48 NJ Super 216, 137 A2d 76; Southern R. Co. *v.* Virginia (1955) 196 Va 1086, 86 SE2d 839, 841.

desires the passenger train as a stand-by service.

It is not often that any serious attempt is made to challenge the railroad's contention that a train is operating at an out-of-pocket loss. The attack by protestants here is rather in the nature of a plea of "confession and avoidance"; namely, advancing the allegation that the loss could be converted into a profit if the railroad were to improve the service by using newer equipment, having a faster schedule, reducing fares, improving on-time performance, having stations open longer hours, doing more advertising, having different departure and arrival times, or adopting such innovations as free meal service. These allegations can best be met by the testimony of passenger traffic officers, who can discuss them in detail and explain why, on the basis of experience, neither they nor any other action could improve the earning position of the trains in issue.

The effect of these allegations is weakened considerably if the railroad, prior to the discontinuance proceeding, has been operating the train with the best possible equipment, has a record of good on-time performance, and has done a maximum amount of advertising to promote the train—and the existence of these factors, I can subscribe from personal experience, makes the task of railroad counsel an easier one.

Although representatives of the railroad operating unions appear and actively participate as protestants, they usually disclaim having any interest in job protection and insist that their sole interest is seeing that adequate passenger train service is maintained for the benefit of the traveling public. These union representatives rarely present any evidence, but rather subject the railroad witnesses to extensive and vociferous cross-examination.

Judicial Reivew of Commission Decisions

THE avenues for review in state courts of decisions of state regulatory commissions in train discontinuance cases necessarily vary among the respective states, as does the review of all matters affecting public utilities, from a complete trial *de novo* in a trial court of general jurisdiction (Arizona) to a very limited review by the filing of a petition for review in the highest appellate court, which that court may deny without opinion (California).

Courts in a majority of states follow the doctrine of making an independent review of a commission finding that public convenience and necessity require the continuation of a passenger train, by weighing the financial hardship of the carrier occasioned by continuing the service against the inconvenience to the public occasioned by discontinuation of the service. The courts following this doctrine will set aside a finding of public convenience and necessity as not supported by substantial evidence or as arbitrary when the balance is on the side of hardship on the carrier.[10]

Courts in a minority of states follow the doctrine of making no independent review of a commission's finding[11] that public convenience and necessity require the continued

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[10] Arizona Corp. Commission *v.* Southern P. Co. (Ariz Sup Ct 1940) 55 Ariz 173, 99 P2d 702; Atlantic Coast Line R. Co. *v.* King (Fla Sup Ct 1950) 87 PUR NS 525, 49 So2d 89; Re Union P. R. Co. (Ida Sup Ct 1943) 64 Ida 597, 134 P2d 1073; Thompson *v.* Illinois Commerce Commission (1953) 1 Ill2d 350, 115 NE2d 622, 624; Atchison, T. & S. F. R. Co. *v.* State Corporation Commission (1958) 182 Kan 603, 322 P2d 715; Chicago, R. I. & P. R. Co. *v.* Louisiana Pub. Service Commission (1958) 234 La 462, 23 PUR3d 375, 100 So2d 471; Hessey *v.* Capital Transit Co. (1949) 193 Md 265, 80 PUR NS 513, 66 A2d 787; Chicago, M., St. P. & P. R. Co. *v.* Michigan Pub. Service Commission (Mich Sup Ct 1953) 338 Mich 9, 61 NW2d 24; application of Chicago, B. & Q. R. Co. (1958) 166 Neb 29, 87 NW2d 630; Detroit, T. & I. R. Co. *v.* Ohio Pub. Utilities Commission (Ohio Sup Ct 1954) 161 Ohio St 317, 6 PUR3d 319, 119 NE2d 73; St. Louis-S. F. R. Co. *v.* Oklahoma (Okla Sup Ct 1956) 16 PUR3d 524, 301 P2d 228; Union P. R. Co. *v.* Public Serv. Commission (Utah Sup Ct 1942) 102 Utah 465, 132 P2d 128; Southern R. Co. *v.* Commonwealth (Va Sup Ct App 1955) 196 Va 1086, 86 SE2d 839.

[11] Alabama Pub. Service Commission *v.* Atlantic Coast Line R. Co. (1950) 253 Ala 559, 45 So2d 449; Southern P. Co. *v.* California Pub. Utilities Commission (Cal Sup Ct 1953) 41 Cal2d 354, 1 PUR3d 438, 260 P2d 70; Illinois C. R. Co. *v.* Indiana Pub. Service Commission (Ind Sup Ct 1947) 225 Ind 643, 75 NE2d 900; Minnesota *v.* Duluth, M. & I. R. R. Co. (Minn Sup Ct 1956) 246 Minn 383, 75 NW2d 398; Chicago, M., St. P. & P. R. Co. *v.* Montana Railroad Commissioners (Mont Sup Ct 1953) 126 Mont 568, 99 PUR NS 500, 255 P2d 346; Re New Jersey & N.Y. R. Co. (NJ Sup Ct 1953) 12 NJ 281, 99 PUR NS 451, 96 A2d 526; New York C. R. Co. *v.* New York Pub. Service Commission (NY App Div 1951) 278 App Div 725, 89 PUR NS 389, 103 NYS2d 217, appeal and reargument denied (1951) 278 App Div 865, 105 NYS2d 383; North Carolina *v.* Atlantic Coast Line R. Co. (NC Sup Ct 1953) 238 NC 701, 78 SE2d 780; Chicago, M., St. P. & P. R. Co. *v.* Wisconsin Pub. Service Commission (Wis Sup Ct 1954) 267 Wis 402, 66 NW2d 351.

operation of a train at a loss, but treat that finding as falling within the expert judgment or discretion of the commission or as being at least prima facie reasonable.

DECISIONS of state courts upholding orders of state commissions to require rendition of a passenger train service at a loss have, since a relatively early time, been consistently affirmed by the United States Supreme Court on the ground that such a requirement does not violate the due process or commerce clauses of the federal Constitution.[12]

The one qualification to this rule has been where the loss sustained by a particular service was shown to be so great as to jeopardize the successful operation of the remaining services of the railroad.[13]

Prior to 1951, statutory three-judge district courts entertained suits to enjoin state commission decisions requiring the rendition of passenger train service regardless of the remedies available in the state courts, and set aside commission orders denying applications to discontinue passenger trains in particular cases as arbitrary and confiscatory.[14] In 1951, however, the United States Supreme Court, in Alabama Pub. Service Commission *v.* Southern R. Co. 341 US 341, 90 PUR NS 308, held that statutory three-judge courts should not, "as a matter of sound equitable discretion," exercise their jurisdiction in reviewing decisions of state regulatory commissions in passenger train discontinuance cases, because an adequate state court review of an administrative order based upon predominantly local factors was available, the usual rule of comity must govern in the exercise of equitable jurisdiction by the district courts, and "whatever rights appellee may have are to be pursued through the state courts."

WITH the Transportation Act of 1958 only two weeks old, all that can be said with respect to the judicial review of passenger transportation proceedings which may be instituted thereunder before the Interstate Commerce Commission is that they should be subject to the same principles of judicial review which have applied to decisions of the Interstate Commerce Commission in other types of proceedings.

[12] St. Louis-S. F. R. Co. *v.* Gill (1895) 156 US 649, 665-66; Atlantic Coast Line R. Co. *v.* North Carolina Corp. Commission (1907) 206 US 1, 51 L ed 933, 27 S Ct 585; Missouri P. R. Co. *v.* Kansas ex rel Taylor (1910) 216 US 262, 278, 54 L ed 472, 30 S Ct 330; Chesapeake & O. R. Co. *v.* Public Service Commission (1917) 242 US 603, 61 L ed 520, 37 S Ct 234; Puget Sound Traction, Light & P. Co. *v.* Reynolds, 244 US 574, PUR1917F 57, 61 L ed 1325, 37 S Ct 705; Fort Smith Light & Traction Co. *v.* Bourland, 267 US 330, PUR1925C 604, 69 L ed 631, 45 S Ct 249; Chicago, M., St. P. & P. R. Co. *v.* Board of R. R. Commissioners (1953), *supra*, cert. denied, 346 US 823; Re New Jersey & N. Y. R. Co., *supra*, appeal dismissed, New Jersey & N.Y. R. Co. *v.* Board of Pub. Utility Commissioners (1953) 346 US 868; Southern P. Co. *v.* California Pub. Utilities Commission, *supra*, appeal dismissed (1954) 346 US 919.

[13] Mississippi R. Commission *v.* Mobile & O. R. Co. 244 US 388, PUR1917E 791, 61 L ed 1216, 37 S Ct 602.

[14] Great Northern R. Co. *v.* Nagle (1936) 16 F Supp 532; Northern P. R. Co. *v.* Montana R. Commissioners (1939) 31 PUR NS 250, 28 F Supp 810; Northern P. R. Co. *v.* Montana R. Commissioners (1942) 46 PUR NS 462, 46 F Supp 340; Atlantic Coast Line R. Co. *v.* South Carolina Pub. Service Commission (1948) 76 PUR NS 348, 77 F Supp 675; Chicago, B. & Q. R. Co. *v.* Montana R. Commissioners (1947) 78 F Supp 1010; Chicago, B. & Q. R. Co. *v.* Illinois Commerce Commission (ND Ill 1949) 82 F Supp 368; Ann Arbor R. Co. *v.* Michigan Pub. Service Commission (US Dist Ct 1950) 91 F Supp 668.

The Conflict in and Self-destruction of Federal Policies in the Field of Small Parcel Transportation

BY THE HONORABLE EDWARD J. O'MARA*

ONE of the most important and vexatious problems faced by many metropolitan areas is that of adequate mass transportation. The problem has become increasingly acute in the past twenty or twenty-five years for the reasons which I shall briefly outline in a moment. The importance of finding a solution is self-evident because it takes no argument to demonstrate that the economic and social well-being of a region is depend-

*Co-chairman, Metropolitan Rapid Transit Commission, New York—New Jersey, Jersey City.

ent upon adequate transit facilities almost as much as it is on an adequate supply of water, sufficient police and fire protection, satisfactory health and sanitary provisions, and the many other basic requirements so necessary to modern living.

Therefore, the problem of adequate transportation is not one solely concerning the commuter who leaves his suburban home in the morning to proceed to his place of employment, and returns to his home after his day's work is finished. The problem is one which vitally affects the well-being of the entire region. For instance, daily commuters to New York city earn in excess of two and one-quarter billion dollars a year, most of which staggering sum is spent in the communities in which these commuters reside. The ability of the commuter to get to his place of business has a direct economic bearing upon the butcher and the grocer from whom he buys his food, the landlord from whom he rents his home or apartment, the tax collector of his home community, and all others who share in the distribution of his earnings for the necessities of life. It is equally important to the urban center which must have an adequate supply of personnel to keep the wheels of industry and commerce turning.

FOR the past three years I have been co-chairman of the New York—New Jersey Metropolitan Rapid Transit Commission, a bistate commission appointed by the governors of the two states under a law passed by the two legislatures. We were charged with the duty of studying the present and prospective rapid transit needs of the New York—New Jersey metropolitan area, which includes numerous communities within a radius of approximately 50 miles from New York city, some in the state of New York and some in the ten northern counties of the state of New Jersey. During the life of the commission, we have conducted an intensive study of the problem at a cost of approximately one million dollars. We have employed the foremost consultants available in the transportation field, such as Charles E. Delew, Coverdale and Colpitts, Ford, Bacon and Davis, the Regional Plan Association, and Doctor William Miller of Princeton Surveys.

The study made by these consultants was co-ordinated under the direction of Arthur W. Page, as project director. Mr. Page, as some of you may remember, was chairman of the working committee of President Eisenhower's Cabinet Committee on Transportation. At the conclusion of the study, Mr. Page made his report to the commission. It was widely disseminated and numerous public hearings were held on its provisions. Seven or eight months later the commission made its own report to the governors and the legislatures of the two states.

I MENTION this not for the purpose of discussing the commission's report in any detail, but to indicate that the remarks which I shall make have particular applicability to the transit problem in the New York—New Jersey area. I assume, however, that the same fundamental problem exists in many metropolitan areas and wherever it exists it differs from the New York problem only in incidental respects.

In our region the problem has been particularly acute for a number of years because of the necessity of getting many thousands of commuters from New Jersey across the Hudson river within a few hours in the morning and back again within a few hours in the evening. It has become increasingly severe in the past twenty or twenty-five years because of the construction by the Port of New York Authority of vehicular tunnels under the river, such as the Holland and Lincoln tunnels, and of the George Washington bridge across the river. These facilities, together with the vast network of highways leading to them, have, in effect, caused many commuters who formerly traveled by rail to abandon that form of transportation in favor of travel by bus or automobile.

THE number of passengers crossing the Hudson river by all means of transportation has been surprisingly stable during the past twenty-five years, but there has been a marked change in the type of transportation employed by the commuters due, in large measure, to the factors which I have just mentioned. There has been a striking rise in the number of people who use automobiles and bus, and an almost equal decline in the use of railroads and

ferry. Nevertheless, rail transportation is still used by about 50 per cent of the interstate commuters coming into the Manhattan area each day.

When I point out that a private automobile carries an average of less than two passengers and requires from 200 and 350 feet of parking area at its destination, that one lane of expressway traffic will accommodate only 2,500 passengers per hour, whereas one lane of rapid transit railroad can accommodate up to 60,000 passengers per hour, it becomes apparent that the nub of the problem is to halt the flight of the commuters from rail to rubber and indeed to reverse that trend.

It has been estimated that if no railroad facilities were available to the New York commuters, it would be necessary to funnel 30,000 additional autos into New York city daily, requiring bumper-to-bumper parking covering 50 miles of Manhattan's streets. As bad as the present traffic situation in New York city is, the loss of existing rail transit facilities would increase the congestion to the point where utter stagnation would result.

The increasing use of the automobile and the bus has had a disastrous financial effect upon the commuter railroads which formerly carried the bulk of the traffic, and has forced a drastic curtailment of their service.

NATURALLY there is a limit beyond which a private corporation cannot go in furnishing service at a financial loss. Anyone familiar with the history of American railroads will readily agree, I am sure, that even under the most favorable circumstances short-haul passenger service cannot be operated at a profit. Nevertheless, it is a service which is vitally necessary to the economic and social well-being of the nation, for the railroad is and always will be the backbone of our transportation, especially in times of national emergency.

A striking example of what I mean occurred a month or so ago in Massachusetts. The New York, New Haven & Hartford Railroad, which had recently come through a reorganization proceeding, operated what was known as the Old Colony division, furnishing commuter service to the communities on the south shore, below Boston. Under the terms of the reorganization plan, the railroad was permitted to discontinue the operation of this branch if the revenues derived therefrom fell below a certain point. The revenues fell far below the designated point and some weeks ago the railroad announced its intention to discontinue the operation of the division. An application for an injunction was denied and the railroad did actually suspend operations. The ten thousand commuters who depended on this service had to fight their way to town by whatever means they could find. They were, for all practical purposes, stranded, unable to reach their place of business without intolerable delay. It is no exaggeration to say that chaos prevailed. The result was that after one or two days of suspended service, the railroad was induced to resume its operation on the promise that the legislature of Massachusetts would enact a bill subsidizing the operation to the extent of about $900,000 a year.

THE most important conclusions which have come out of our intensive study of the rapid transit problem in the New York area might be summarized as follows: (1) the transit problem is a regional one and its proper solution is essential to the economic and social well-being of all of the residents of the region; (2) adequate rail rapid transit facilities are absolutely essential to the economic well-being of the region; (3) rail commuter service can be supplied only at an operating deficit and, consequently, some form of public assistance, either by way of tax relief or direct subsidy, is essential if such service is to continue; (4) (and this is the only definite proposal made to the legislatures of the states of New York and New Jersey by the commission) a bistate transit district should be established with power to consult and agree upon local needs with the various counties in the region and with the various railroads providing suburban transportation therein.

It is only by the creation of such a district or agency that the details of a physical plan and the method of adequately financing such a plan can be arrived at. In our own case such a district would have to be created by a bistate compact adopted by

the legislatures of the two states, with the approval of the Congress of the United States. That, of course, raises interesting legal questions which, however, are by no means insuperable. It would require that each state will give up to the other compacting state a measure of control over commerce conducted within its territory and, at the same time, will, to some extent, extend its jurisdiction into both the intrastate commerce of the other compacting state and the interstate commerce between the two states.

To us in the New York region, such a problem holds no terrors. We have as a prototype the compact between New York and New Jersey, creating the Port of New York Authority, which has been in existence for approximately thirty-five years, and is undoubtedly the outstanding example of the use of the bistate compact concept for the better administration of problems of mutual interest to the contracting states.

THE proposal to regulate metropolitan transit through such a compact is a matter of first impression and raises at least two interesting legal questions—first, whether states may delegate their inherent police power to the compact agency, and, second, whether the constitutional delegation of regulation of interstate commerce to the federal government precludes the states, acting through an interstate compact, from regulating those aspects of interstate commerce which are essentially local in character and are not of general national concern. The first question seems to have been answered in the affirmative by the Supreme Court in Dyer *v.* Sims, 341 US 22, wherein the constitutional right of a state to delegate its police power to an interstate agency created under the Ohio River Valley Sanitation Compact was upheld.

As to the second question, it should be noted that although the line of demarcation between the spheres of power of the federal government and the states over commerce has been a shadowy one, it has been established, certainly since 1851 when the Supreme Court decided the case of Cooley *v.* Board of Wardens of the Port of Philadelphia, 12 How 299, that there is an area within which the states may properly regulate interstate commerce, provided Congress has not pre-empted the field. Following this decision there have been many examples of federal legislation consenting to the regulation by the states of various phases of interstate commerce, notably in the fields of liquor traffic and prison-made goods. And you will remember that under the terms of the Taft-Hartley Act the states were allowed to determine whether they would permit the execution or application of agreements requiring membership in a labor organization as a condition of employment within the state.

BUT perhaps the most striking example of the extent to which Congress has gone in consenting to the regulation by the states of interstate commerce is in the insurance field. Following the decision of the United States Supreme Court, in 1944, in U. S. *v.* Southeastern Underwriters Association, 322 US 533, which held that insurance was interstate commerce, contrary to what for years had been considered the well-established rule to the contrary, Congress passed the Ferguson-McCarren Act, delegating to the states exclusive control over insurance regulation. This delegation was upheld as constitutional in Prudential Insurance Co. *v.* Benjamin, 328 US 408.

It would seem that Congress, by the very act of ratifying the compact between the states, would consent, by necessary implication, to the regulation by the agency of the compacting states of interstate rapid transit which obviously is local in nature and is not of general national concern. I feel confident that there is no constitutional barrier to the creation of a bistate transit district, and the delegation to that district of proper authority and power to effectively cope with the problem of mass transportation. I feel, also, that from a practical standpoint, there is no feasible alternative to the creation of such a district. As I said previously, that was the one definite recommendation made by our commission to the legislatures of the two states. The state of New York has already passed the necessary legislation for the creation of such a district and the bill has been signed by the governor of that state. The New Jersey senate has likewise passed the bill and it is now awaiting action

in the house of assembly. In the interest of getting on with the solution of a problem which is hourly growing more serious, I sincerely hope that the lower house will act favorably on the bill.

THIS much is certain: The quality and quantity of suburban mass transportation by rail have been steadily deteriorating over the past twenty or twenty-five years. It has now reached the point, in many areas, where total collapse seems imminent. Such a catastrophe must be avoided at all costs if the economic and social progress of the affected regions is to be preserved and protected.

The Conflict in and Self-destruction of Federal Policies In the Field of Small Parcel Transportation

By WILLIAM B. JOHNSON*

SINCE World War II well-informed persons in the transportation world have recognized the existence and deep roots of two major problems. These are generally described as the "Small Shipments Problem" and "The Passenger Train Deficit Problem." The Interstate Commerce Commission has extensively investigated each. The *Small Shipments Investigation* was begun on June 10, 1946, and was dismissed, without commission report, on February 1, 1954.[1] The *Passenger Train Deficit Investigation* was begun on March 19, 1956; the record was closed on June 23, 1958, and a report is awaited.[2] Since 1946 every ICC Annual Report to the Congress has discussed one or the other, or both, of these two complex and extremely important trouble areas.[3]

The two problems are not unrelated, so far as railroads are concerned. They coalesce in the mail and express fields because each of those major classes of traffic is composed of small shipments and each moves on passenger trains.

IN 1957 the mail and express services together accounted for more than $650 million of small parcel transportation revenue.[4] Railroad and Express Agency investment allocable to these two services may be estimated at over $1.5 billion. The costs of the railroads and Express Agency allocable to mail and express in 1957 are estimated at $825 to $900 million, leaving a deficit in excess of $175 million.[5] The total passenger train loss in 1957 was $723 million, which was equal to 44 per cent of the 1957 net operating income of $1.6 billion from freight service.[6]

These statistics, some of which are estimates based on ICC reports and numerous cost studies by railroads and others,[7] are mentioned to establish, first, that small parcel transportation by railroad passenger train is a big business and, secondly, that it is responsible for a large part of the railroad passenger train losses, and thus of the overall railroad financial difficulties.

To what extent have these small parcel losses been the result of conflicting and self-defeating federal policies? No one can, nor ever will, answer that question in terms of dollars. But analysis of those policies will demonstrate that they are necessarily responsible for a large portion of the losses—and, further, that there is little prospect for major or lasting improvement until the policies are changed.

The National Transportation Policy

IT might be supposed that there is only one federal policy affecting small parcel transportation—the National Transportation Policy adopted by Congress in 1940.[8] The declared end-purpose of this policy is the development and preservation of a transport system "adequate to meet the needs of the commerce of the United States, of the Postal Service, and of the national defense." Toward this objective, Congress declared that it stands squarely behind:

*Assistant general counsel, The Pennsylvania Railroad Company, Philadelphia, Pennsylvania.

Because of the unavoidable absence of Mr. Johnson at the Los Angeles meeting, the substance of the paper he had prepared was presented by Starr Thomas, general attorney and commerce counsel, Santa Fe Railway, Chicago, Illinois.

1. "fair and impartial regulation . . . administered . . . to recognize and preserve the inherent advantages of each [mode of transportation],"
2. the promotion of safe, adequate, economical, and efficient service,
3. the fostering of sound economic conditions in transportation,
4. the maintenance of reasonable [transportation] charges,
5. the prevention of undue preferences or advantages, and unfair or destructive competitive practices, and
6. the encouragement of "fair wages and equitable working conditions."

Does any federal officer or agency disavow any of these announced national objectives? Is there any basis, for example, for suggesting that the Post Office Department, the Interstate Commerce Commission, or the Congress itself, should not faithfully conform their actions to this National Policy?

THE policy conflicts doubtless result largely from the different rôles of federal agencies in their relationship to small parcel transportation. The Congress *legislates,* the ICC and CAB *regulate,* a number of executive agencies promote certain carriers' welfare, and the Post Office functions as both the *operator* of the world's largest small parcel business and the largest single *user* of passenger train service. In performing these different functions, each federal agency necessarily establishes, however unwittingly, a part of the actual working policy of the federal government. If one's company is affected by these federal acts, he has no doubt that the policy lies more in what the government does, and where it is headed, than in what it says.

Federal small parcel activity in two main areas, or relationships, is markedly and harmfully inconsistent with the sound and accepted principles of the National Policy. The first of these is railway and motor transportation of mail; the second is parcel post and railway express competition for small parcel business. In addition, the legislated policies governing air-line transportation of mail are importantly inconsistent with those governing railroad transportation of mail. The competition, thus far, between railroads and airlines in mail carriage has not been extensive, however, and this third area of conflict, while striking, will not be discussed in this paper.[9]

Railroad and Motor Transportation of Mail

TODAY'S federal policy governing railway mail transportation has evolved in three stages since 1916. The policy conflicts have developed as the evolution occurred during these forty-two years.

The story begins with congressional passage of the Railway Mail Pay Act of 1916.[10] Prior to that time all railway mail transportation was by contract with the Post Office Department. From 1916 to 1950 practically all intercity transportation of mail was by railroads, and all under the Mail Pay Act.

This act was, and still is, unique in railroad transportation law. The Post Office—the shipper—was authorized by four separate provisions to accuse, try, convict, and fine railroads[11] for any failure to furnish station space and rolling stock, or to sort and handle mail in the stations and transport it on the specific trains and in the specific manner directed by the Post Office regulations and officers. In return for this compulsory service, the act provided, and still does, that the ICC shall fix fair and reasonable rates and that the Post Office Department *shall pay* these rates.[12]

In 1916, of course, there was virtually no motor or air transportation. For all practical purposes mail had to be carried by railroad. The Post Office may, therefore, have needed the protection of the extraordinary powers then granted it by Congress.

IN 1929 the Supreme Court, interpreting the 1916 statute, held that the railroads were entitled to increased mail compensation, as determined by the ICC after a hearing, retroactively to the date that the application was filed with the ICC.[13] Justice Holmes, writing for the court, based this decision, not on any words in the act, but squarely on the railroads' constitutional right, as of the day of protest, to fair and reasonable compensation for services performed under the executive requirements. The rationale is that the 1916 act accomplished a continuing seizure of railroad services by the government—and that this was done by Congress on two premises, first, that this rail service was indis-

pensable and, secondly, that the railroads were in a monopoly position with respect to mail traffic. Mail is unique in this respect; it is the only railroad traffic on which retroactive pay is receivable.

We come now to the second chapter in the evolution. In 1940 Congress provided that, with certain exceptions,[14] the full applicable commercial rates, fares, or charges established under the Commerce Act shall be paid for transportation by any common carrier, thus partially repealing the requirement that land-grant railroads carry government traffic at substantial discounts.[15] Since mail rates were not established under the Commerce Act, and similar rate discounts were required from land-grant railroads carrying mail,[16] Congress added that the ICC-fixed mail rates "shall be paid" for mail transportation. Immediately thereafter, however, it attached the significant proviso that any railroad and the United States may enter into mail transportation contracts "for less than such rate."[17]

Bringing together, therefore, the 1940 proviso and the 1916 act as interpreted by the New York Central decision, the railroads are constitutionally entitled to just compensation for the compulsory mail services, and the ICC is the tribunal designated to declare the amount thereof; but, the railroads may contractually waive a part of this compensation. There are no mail rate tariffs; mail rates are not in the same legislated status as freight, express, or other rates which are established by tariff under the Commerce Act. Mail rates are not required to be charged; there is no prohibition against rebates to the government shipper. There is no minimum rate control to prevent destructive or wasteful competition; and no law against discrimination in favor of the Post Office Department, even if mail rate reductions under the 1940 proviso should be so low as to place upon freight shippers or other users of rail services the entire mail portion of the common and overhead costs, or even a part of the direct mail operating expenses.

Thus the stage for policy conflict was legislatively set in 1940: The Post Office was specifically *required* by the 1916 act to pay railroads the commission-declared just compensation but, on the other hand, the requirement could be ignored under the 1940 law if the Post Office could persuade a railroad to accept less.

We all know that in its genesis the Commerce Act was largely a recognition of the dangers found in the economic power of large shippers to force discriminations and rate cutting in their special behalf, with consequent burdens upon others.[18] The Post Office Department has exclusive control and routing power over $350 million of mail traffic, even excluding air mail (which sometimes moves by train). And, the Post Office can command any rail carrier to serve it as it directs. It might have been suspected, therefore, that the Post Office would have been in a position to secure many rate reductions immediately after the 1940 proviso was enacted.

This did not occur, however, until the 1950's, for several reasons. One of these was—and to some degree it is still true—that the Post Office was physically committed to railroad service at many of the large volume points. Under the 1916 monopoly conditions the Post Office and railroads had co-operated in constructing their respective mail terminal facilities adjacent to, or over, railroad passenger stations in the major cities—these represented large investments, not readily replaceable, or alterable for motor service. In addition, the commission-fixed mail rates remained unchanged for nineteen years—from 1928 to 1947—because of the depression and World War II. At these low rates there was practically no motor carrier interest in mail transportation and thus limited leverage was available to the Post Office for securing rate cuts under the 1940 proviso. Even at the beginning of 1947, therefore, practically all railroads were actually receiving the commission-fixed rates —the compensation which *in 1928* the commission had found to be then fair and reasonable on the basis of railroad cost.

However, the third chapter in this evolution began in February of 1947, when the nation's railroads applied to the commission for a new determination of fair and reasonable mail compensation.[19] The case was contested for five years but a 25 per cent interim increase was granted in December of the first year[20] and, by the end of 1950, a 48 per cent retroactive increase had

been approved,[21] with future rates still to be determined.

The 48 per cent price adjustment, along with the growth of the motor carrier industry in the 1940's, led to Post Office inauguration in late 1950 of the first over-the-road trucking program for mail.[22] The program has been steadily expanded and now comprises some 664[23] routes and accounts for about $17 million[24] in revenue. All indications are that it will be greatly expanded in the future.

Is this motor service fairly competitive with other surface carriers, and thus consistent with the National Transportation Policy? The answer depends on what kinds of motor carriers hold these contracts from the Post Office and on the type of rules under which they operate. Of some 592 motor carrier over-the-road mail contracts recently examined, 487, or 83 per cent, were awarded to persons, corporations, or companies which perform no service for the public as either motor common or contract carriers under the Interstate Commerce Act.

As to the rules, these carriers haul mail under contracts executed pursuant to the old Star Route Law. This law was written, and has been used for many years, for local operations by car or small truck on rural routes and between very small post offices. The Star Route Law is quite simple, requiring only that the Post Office advertise for competitive bids, and then award the contract to the lowest responsible bidder.[25] For the local operations intended to be covered by the law, Congress saw no need for the normal regulatory test for entry into the transportation field or for the normal standard for fair competition as between for-hire carriers. Thus, there is no requirement of an ICC finding that existing services are inadequate, or of ICC certification that the new carrier's entry into transportation is required by public convenience and necessity. Similarly, there is no maximum or minimum rate control, or any function by the ICC, and no compulsion on any existing motor carrier to transport any mail.[26] Likewise, there is no requirement that the new mail carrier perform any service for the general public, or pay union wages.

The Post Office decides which particular mail it sees greatest advantage in diverting; the individual or company decides whether to go into the mail transportation business, whether to bid and what to bid. The Post Office is not required to use common carriers; to the contrary, when it decides to forsake the common carrier, it is affirmatively required to look only to the low dollar. If the new carrier bids too low, he eventually goes out of business and someone else supplants him, but in the meantime he and the Post Office divert the mail from carriers who serve the general public and who pay wages established under such statutory procedures as the Railway Labor Act. As a practical matter, the diversion, once made, is permanent.

This kind of unregulated, marginal motor operator inevitably will underprice most common carriers, both highway and rail. Efforts to meet such competition inevitably drive the common carrier rates downward, under the 1940 proviso, in the case of railroads, from a fully compensatory to an out-of-pocket, or direct-cost, level. Other shippers, not situated so favorably as the Post Office, are then compelled to carry the overhead and joint costs of the common carriers. Primarily because of this type of competition, there are now some fifty special railroad contracts in the Northeast alone, under the 1940 proviso. These contracts supersede and reduce rates fixed by the ICC as fair and reasonable for rail service.

In the ICC's *Passenger Train Deficit Investigation*,[27] the Assistant Postmaster General in Charge of Transportation testified this year that all railroad mail is now subject to truck competition (except possibly some transcontinental service) and that about one-half of the railroad mail in the East and South could be diverted to truck at substantial savings. He made clear that, in his opinion, the Post Office's sole duty—and, in fact its objective—is to pay as little as possible for satisfactory mail transportation service, and *to this end* will take advantage of all available transport media open to it under the law.

Thus, we now have these basic conflicts in federal mail transportation policy:

1. The railroads may still be required, under the 1916 act, to provide facilities and service on the theory that they are indis-

pensable and have a position of monopoly. But the Post Office, having the benefit of extraordinary powers thus conferred, nevertheless challenges the basis of these powers as outmoded, by asserting that virtually all railroad mail is now competitive.

2. The National Policy is to prevent unfair or destructive competition and to encourage fair wages to transportation employees. But the Post Office, using Star Route laws designed for different purposes, is engaged in steady and growing diversion of mail from regulated common carriers to unregulated specialty operators by highway, carriers which are free to pay nonunion wages and charge noncompensatory prices for as long as they can keep their heads above water.

3. The Post Office is required by the Mail Pay Act to pay the fair and reasonable rates fixed by the commission—and the railroads are constitutionally entitled to receive those rates. The National Policy is to foster sound economic conditions in transportation. But the Post Office policy looks to the lowest obtainable cost for satisfactory service on each particular mail movement,[28] and it actually pays, through competitive pressures, less than fair and reasonable rates fixed by the federal regulatory agency.

THE Post Office would doubtless justify its part in creating those three basic conflicts by asserting that it is merely operating on what is popularly called a "businesslike" basis. Post Office consistency in adhering to the "businesslike" approach is demonstrated by its opposition to railroad mail rate increase applications before the ICC with great vigor and at extreme length, as in the five-year case begun in 1947 and the two-year case begun in July of 1956.[29] Certainly this is its privilege and duty, to the extent that the opposition is objective and seeks only a fair determination by the ICC. But is that the case? Or has the proper concern for the large postal deficit brought Post Office opposition in mail rate cases to the point of being for the sole purpose of paying railroads just as little as possible, without regard to rail costs, the public interest in rail service, or the interests of other railroad users?[30]

In other words, does the Post Office litigate in the selfish fashion of a private party protecting his own funds, or, on the other hand, as a federal executive department conscious of its governmental position and the objectives of the National Transportation Policy?

The answer is readily available in the record of the mail rate cases since 1947. It is dramatically illustrated by the postal arguments advanced in the most recent case on the basis of rail-motor competition. In 1951 the ICC found that the 1928 mail rates would have to be increased 131 per cent to meet railroad costs of mail service, including a fair return on investment. It, nevertheless, awarded only a 95 per cent increase, thus leaving the railroads, on the day after the decision, with an annual mail deficit in excess of $60 million. Certain commission language suggested that one of the reasons for not fixing the rates so as to equal the costs of service was the finding that there was then some truck competition for mail, and that this competition would increase in coming years.

EMPLOYING this same competitive argument, the Post Office recently contended in the eastern mail rate case that the commission should again fix the rates at less than cost, even as its witnesses computed the cost.[31] The working Post Office policy and aim were thus candidly indicated. Its current objective in relation to rail service is to have *all* the commission-fixed mail rates established, under the 1916 statute, at less than rail cost, on the ground that there is truck competition, and later to secure, through negotiation and threat of diversion, still further contract reductions, under the 1940 proviso, on the basis of unregulated motor competition where and as it develops for the specific movements subject to favorable diversion. If this reasoning were accepted, the *noncompetitive* mail would be priced below cost, because of the competition for *other* mail, and the competitive mail would later be priced still lower. No railroad could ever hope, of course, to avoid a mail deficit, or to avoid charging other shippers the uncompensated cost of mail service. The argument is entirely inconsistent, of course, with a constitutional guaranty to just compensation, and it was rejected by the commission in its decision of last June. The commission held that the rates should be fixed

to meet the cost, as determined by it and including a 3 per cent return on mail investment.[32]

WHILE the Post Office's position was rejected in this most recent mail case, it demonstrates the present "businesslike" policy of this large shipper—a part of the federal government and the repository of extraordinary control over railroad service. This policy of this branch of the government may thus be summarized as the stimulation and use of unrestrained market-place competition between unregulated marginal operators and regulated common carriers for the purpose of reducing the postal transportation bill to the lowest possible level at which satisfactory service can be secured from any type or kind of carrier. This lack of concern by this federal department for an equitable distribution of the rail cost burden between all-rail shippers, or for fair competition, or for equitable wages and working conditions for the employees of all mail carriers, or for the financial soundness and preservation of the carriers themselves, is directly contrary to the National Transportation Policy declared by Congress. Why should the Post Office not do its part in implementing a unified and coordinated long-range transportation policy for the country?

Government Competition with Railroad Express Service

THE policy conflict which over the years has probably done the greatest cumulative harm to common carriers of small parcels stems from the government-operated parcel post service. This federal small parcel service was established in 1912, after extensive committee consideration and debate in the Congress. Two limiting principles were basic in this action:

> (1) The Congress did not intend to destroy or acquire the privately owned express companies, or to take over the "heavy transportation business" handled by them; and
>
> (2) The parcel post rates were to be fully compensatory so that the service would be, as the Senate committee chairman stated, "absolutely self-supporting."[33]

Implementation of these two principles would have permitted parcel post to function with minimum competition and injury to the small parcel carriers doing business as private enterprises.

Implementation of these policies was attempted, first, by fixing eleven pounds as the maximum weight of any parcel post package and, secondly, by a congressional direction that the Postmaster General, with the consent of the ICC, shall change, from time to time, the parcel post weight limits, rates, and rules so as to insure parcel post revenue equal to parcel post expenses.[34]

By August of 1931, however, the Postmasters General had, by a series of increases, brought the weight limit to 70 pounds, thus putting the Post Office into competition with the great preponderance of the business of the privately owned express companies. And, instead of being self-supporting, large annual parcel post deficits have been customary, with a cumulative operating deficit of over $1.2 billion from 1926 to 1956.[35]

THE World War II inflation brought heavy labor cost increases upon Railway Express Agency and other small parcel carriers, and the rates were necessarily increased substantially from 1946 to 1951. Although bearing similar increased costs, the Post Office was slow to increase its parcel rates.

The result was a wholesale diversion of commercial small package traffic from private enterprises to the money-losing, low-rated parcel service run by the government. Railroad express deficits mounted, thousands of express employees were laid off, and the Post Office facilities were swamped with commercial shipments they were never built to handle.

Rather than see the privately owned express business completely destroyed by this federal competition, the Congress took two remedial measures. In 1951, by Public Law 199,[36] 82nd Congress, the weight limits on parcel post were reduced, on most shipments, to 40 pounds on 150-mile hauls or less, and 20 pounds on the longer hauls. Secondly, by Public Law 843,[37] 81st Congress, 2nd Session, money appropriations to the Post Office were, in effect, conditioned upon the Postmaster General's certification either that parcel post was paying its way or that a petition was on file with the ICC

for authority to raise the rates to a compensatory level.

The first-mentioned action—Public Law 199—was helpful and effective as far as it went; but it did not go far enough to end the federal competition with Railway Express. Public Law 843 has not been effective at all in removing the destructive character of the parcel post competition, for two reasons: The first reason is illustrated by the Post Office's most recent petition to increase parcel post rates. This petition was duly filed with the ICC on April 18, 1957,[38] but it was a general request for authority to put the rates on a compensatory level, without specifying what the rates would be. The petition, although filed fifteen months ago, has not been progressed. No hearing has been requested or set. Its filing was a technical compliance, however, with Public Law 843.

THE second reason that 843 has been ineffective is that the Post Office's parcel post costs do not include the total costs incurred by the federal government to provide the service—and, even if they did, those costs would not reflect the inherent economic advantages of a government-owned business over a railroad-owned enterprise such as Railway Express. For example, the Post Office accounts reflect no expense for retirement fund, workmen's compensation, rental value of government-owned buildings, interest on debt, rental of borrowed equipment, motor vehicle licenses, gasoline taxes, property taxes, and gross receipts taxes. If borne by and charged to the government service in the same fashion that a privately owned parcel service would have to bear and charge them, these costs would approximate $100 million a year, equal to more than 15 per cent of the annual parcel post revenue in fiscal 1956.[39]

This competition with Railway Express and other private carriers of small parcels has, of course, been accentuated by the Post Office policy of driving the mail rates of railroads and other carriers to the lowest level which can be obtained. Lower mail payments to the railroads mean lower parcel post costs for the Post Office, which mean lower parcel post rates, which mean more packages diverted from express, and thus greater express losses and passenger train deficits for railroads. So, the less the railroads get for hauling mail, the more they lose in hauling express.

And—on top of all this—the Post Office now has pending before the ICC a proceeding aimed at a new reduction in railroad pay for hauling mail.[40] This new petition is based on a contention that it is unfair for the railroads to receive more from the Post Office for hauling parcel post than they receive from their wholly owned Express Agency for hauling express. Thus, if the parcel post competition is successful—as indeed it long has been—in turning express into a serious money-losing business, then the law requires, according to the Post Office view of a 1916 statute,[41] that we also transport parcel post at an equally serious loss.

RECALL, if you will, that the National Transportation Policy declares federal support for fair competition, maintenance of reasonable charges, and preservation of common carrier services. The federal parcel post service, in relation to railway express, appears to be operated on a diametrically opposite policy, because the government competition is not fair, reasonable charges are not maintained, and the common carrier express service cannot long endure.

Is it any wonder that Railway Express is being characterized as a dying institution? Is it any wonder that the mail and express contribute so heavily to railroad passenger train losses? Is it any wonder that most informed persons in transportation foresee the inevitability of early and drastic rearrangements in the small parcel services available to the general public?

Federal policies—those expressed by Congress, those established by the Post Office as a transportation user and as the parcel post operator, and those implemented by the agencies which regulate railroad services and promote or aid the services of railroad competitors—are undeniably responsible in large part for today's crisis in small parcel handling and transportation. Unless consistency and wholesome purpose are brought to federal activity in this field, the common carrier railroads, their employees, investors, and patrons—and indeed the small parcel shipping public — will bear consequences which, strangely enough, are not openly supported by anyone in the federal government.

Footnotes

[1] Re Charges on Small Shipments by Railroads, ICC Docket No. 29556; Re Charges on Small Shipments by Motor Carriers, ICC Docket No. MC-C-543.

[2] Re Railroad Passenger Train Deficit, ICC Docket No. 31954.

[3] See, for example, 62nd Annual Report, ICC, pp. 44-66; 66th Annual Report, ICC, pp. 44-47 and 59-72; 71st Annual Report, ICC, pp. 27, 28, 32, 33, and 111. The reports also included separate and extended discussions of the railroad express and mail problems.

[4] The class I railroads operated about 2,000 trains a day, in other than commutation service, in 1957. The revenue from mail traffic moved on those trains approximated $292 million and the rail express revenue of Railway Express Agency approximated $367 million. ICC Docket No. 31954, Verified Statement No. 55; Postmaster General's Annual Report 126 (1957); REA Annual Report to ICC for 1957.

[5] Not including allowance of about $25 million for recent retroactive increases in railroad mail rates in the East.

[6] Transport Economics, ICC, July, 1958, p. 4.

[7] See ICC Docket No. 31954, testimony of Earle W. Orr, Jr., Verified Statement No. 120, Ex. No. 1,121, and Transcript pp. 1,783-1,892; testimony of J. L. Heywood, Verified Statement No. 45, and Transcript pp. 787-847; see also Increased Express Rates and Charges, 1957; ICC Ex Parte 210, testimony of J. L. Heywood, Transcript pp. 230-286, 2,299-2,310, Ex. Nos. 8 and 9; and Re Railway Mail Pay, ICC Docket No. 9200, application of southern and western railroads,—ICC—(December 30, 1957); and application of eastern railroads, 1956,—ICC—(June 23, 1958).

[8] 54 Stat 899 (1940); 49 USC preceding §§ 1, 301, 901, 1,001 (1952).

[9] There are two major differences in the legislative policies affecting mail transportation by air and by rail: First, the airlines certificated to carry mail are assured of receiving compensation as fixed by the regulatory commission and thus are assured of protection against destructive competition; see Postmaster General's Annual Report 15 (1953). Secondly, mail-carrying airlines are assured by Congress of subsidies as needed to permit a profitable overall operation.

Reorganization Plan No. 10 of 1953, commonly referred to as the administrative separation of air-mail pay and subsidy, does not alter this basis. The Reorganization Plan only serves to divide the guaranteed rate into two parts for payment. See U. S. Code, *Cong. and Adm. News*, 83rd Congress, 1st Session, Vol. 1, pp. 901-904 (1953).

[10] 39 Stat 419 (1916) as amended, 39 USCA §§ 523-568, 576, 579 (Supp 1957).

[11] 39 Stat 425 (1916), 39 USC § 529 (1952); 39 Stat 428 (1916), 39 USC § 567 (1952); 39 Stat 428 (1916), 39 USC § 568 (1952); 39 Stat 421 (1916), 39 USC § 563 (1952).

[12] 39 Stat 429 (1916), 39 USC § 541, 542 (1952); 39 Stat 430 (1916), 39 USC § 551 (1952).

[13] United States *v.* New York Central R. Co. (1929) 279 US 73, 49 S Ct 260, 73 L ed 619.

[14] Land-grant deductions on shipments of military and naval property were not repealed until December, 1945, effective October 1, 1946. See 59 Stat 606, noted at 49 USCA § 65 (1952).

[15] 54 Stat 954 (1940), 49 USC § 65 (1952).

[16] 39 Stat 430 (1916), 39 USC § 552 (1952).

[17] 54 Stat 954 (1940), 49 USC § 65 (1952).

[18] "Development of the Regulation of Transportation during the Past Seventy-five Years," by John B. Prizer, PUBLIC UTILITIES FORTNIGHTLY, October 22, 1953, Vol. LII, No. 9, p. 605.

[19] Re Railway Mail Pay, ICC Docket No. 9200, application filed February 19, 1947.

[20] Re Railway Mail Pay, 269 ICC 357 (1947).

[21] Re Railway Mail Pay, 279 ICC 633 (1950).

[22] Postmaster General's Annual Report 33-35 (1951).

[23] Postmaster General's Annual Report 128 (1957).

[24] *Ibid.*

[25] 17 Stat 313, as amended, 39 USC § 429 (1952); act of June 8, 1872, §§ 245, 249, as amended, 39 USC §§ 426, 429 (1952).

[26] S 3960, pending in this year's Congress, would make motor common carrier services subject to Post Office requirement. It would not, however, discontinue the availability of the Star Route approach to over-the-road motor service for mail; to the contrary, it would do away with competitive bidding as to some motor carriers and actually widen the opportunities for unrestrained and destructive rate competition between regulated motor and rail carriers and unregulated motor carriers.

[27] ICC Docket No. 31954, Transcript pp. 1,691-1,709, 10; Verified Statement No. 116. See also "The Railroad Passenger Deficit Problem," reports of NARUC Special Committee for 1954, pp. 14-20, and for 1957, p. 5; Verified Statement No. 1, ICC Docket No. 31954. Re Railway Mail Pay, application of eastern railroads, 1956, Transcript pp. 973-984. As to contract reductions of ICC-fixed mail rates, see Re Railway Mail Pay, application of eastern railroads, 1956, Verified Statement No. 2, and exhibits thereto.

[28] Letter dated July 1, 1958, from Postmaster General Summerfield to Senator Olin Johnston, chairman, Senate Committee on Post Office and Civil Service, with respect to Senate Bill No. 3540, 85th Congress, 2nd Session.

[29] See department position in Re Railway Mail Pay, 283 ICC 503 (1951); 292 ICC 101 (1954); Re Railway Mail Pay, application of eastern railroads, 1956,—ICC—(1958).

[30] See testimony of E. George Siedle, Assistant Postmaster General, in Re Railway Mail Pay, application of eastern railroads, 1956,—ICC—(1958).

[31] Re Railway Mail Pay, application of eastern railroads, 1956,—ICC—; Verified Statement No. 7, App. I.

[32] Re Railway Mail Pay, application of eastern railroads, 1956,—ICC—(1958).

[33] *Congressional Record*, August 13, 1912, p. 10,808; see also Senate Report, No. 695, 82nd Congress, p. 3 (1951).

[34] 39 Stat 431 (1916), as amended, 39 USCA § 247 (Supp 1957).

APPENDIX

[35] The first Cost Ascertainment Report was published by the Post Office for fiscal 1926. The report for fiscal 1957 has not yet been published.

[36] 65 Stat 610 (1951), 39 USCA § 240a (Supp 1957).

[37] 64 Stat 1050 (1950), 31 USCA § 695 (1954).

[38] Re Increased Parcel Post Rates, 1957, ICC Docket No. 32158.

[39] ICC Docket No. 31954, Verified Statement No. 70.

[40] Request of Postmaster General for information as to revenue received by railroads from Railway Express Agency, ICC Docket No. 32380, filed February, 1958.

[41] 39 Stat 428 (1916), 39 USC § 557 (1952).

An Approach to the Problem of Mass Transportation in Urban Areas

By CLAIR W. MacLEOD*

I AM honored to be asked to address such a distinguished gathering.

My approach probably will be somewhat different from other speakers you have heard.

For I would like to speak to you not *just* as an attorney, but as an attorney *and* a citizen.

And from this dual rôle, which *all* of us in the law profession occupy, I would like to discuss with you the very critical problem which confronts every major metropolitan area in the United States today: the problem of mass transportation.

Some of you probably are asking yourselves: "Now, why would anyone want to talk on a subject so far removed from law and the practice of law at a convention of lawyers."

Well, for one thing, the subject is *not* removed from law and the practice of law. It is very intimately associated with law, with lawyers, with the need for new laws, and the urgent necessity for new legal approaches.

And, secondly, as I told you, my approach is that of an attorney *and* citizen.

The problem of mass transportation in metropolitan areas will become of increasing concern to all of us—in both of our rôles. For upon its solution the salvation of our major cities depends.

This is not just an idle statement. Unless we can find some way to stop or reverse the steady trend toward the use of more and more automobiles for more and more purposes, there is good evidence to indicate that our big cities, as we think of them today, will become things of the past. And with them into limbo will go the way of life and the manner of doing business that these great concentrations of population and employment imply.

UNLESS we find a new "wonder drug" with which to combat "automania," the centralized functions of our great metropolises will be scattered about the countryside—without logic, without planning, without regard for efficiency.

For the plain fact *is* that our big cities and their surrounding metropolitan areas cannot hope to cope with steadily increasing population and growing congestion by building more and more facilities for the automobile alone.

It simply will be physically and financially impossible to even *begin* to provide the freeways, the interchanges, the discharge ramps, and, most important, the parking facilities that will be required by the population of 1970 and 1980 and 1990 if this malady—"automania"—goes unchecked.

I need point no farther than your host city to illustrate what I am talking about. More than $700 million has been spent here in *just the past ten years* to build freeways, yet congestion is worse now than it was in 1947, and homes, businesses, and industries continue to sprawl ever farther across the landscape.

Fortunately, however, in many metropolitan areas across the country—including Los Angeles—a growing awareness of the present problem and the direction in which "automania" is leading us has resulted in the beginning of some serious efforts to find a "wonder drug" to cure the malady.

*President, San Francisco Bay Area Rapid Transit District, San Francisco, California.

STUDIES have been conducted or are in progress in such areas as New York, Philadelphia, Boston, Washington, Chicago, and Toronto, to name just a few. Mr. O'Mara has told you of what has been happening in the New York—New Jersey area.

Out of these studies have come two general conclusions:

> One, some efficient way must be found to provide for the fast and economical movement of *people*—not automobiles.
>
> And, second, no one wonder drug will work in every area.

In the San Francisco bay area, the wonder drug prescribed to cure congestion ills is an extensive and revolutionary system of regional mass rapid transit.

The symptoms were studied for six years by the San Francisco Bay Area Rapid Transit Commission, which was created by the California legislature in 1951. This nine-county commission conducted the first complete regional planning study ever made of the bay area, drew up a master plan of development to the year 1990, and then recommended a basic 123-mile rail rapid transit system to anticipate and solve the development, population, and travel requirements which were revealed crystal clear in these studies.

Noting that the area's present population of more than three million will skyrocket to 4.8 million by 1970 and to seven million by 1990, the commission's engineering consultants summed up the alternatives with this statement, which I quote:

> The dominant question for the bay area is whether to accept the stagnation and decline of interurban transit and to prepare for drastic decentralization and repatterning of its urban centers to meet the avalanche of automobiles that will result—or whether to reinvigorate interurban transit so as to sustain the daily flow of workers, shoppers, and visitors on which the vitality of these urban centers depends.
>
> We are convinced that the prosperity of the entire bay area will depend upon the preservation and enhancement of its urban centers and subcenters. Sustaining these as concentrations of employment, commerce, and culture will depend upon the reinvigoration of interurban transit.

That's the end of the quotation.

SOME of you are probably thinking: "Now that's a crazy conclusion. Public transit is in trouble everywhere. This is the age of the automobile."

Well, you are right about public transit being in trouble and about this being the age of the automobile. But I think you would be wrong about this being a crazy conclusion.

The San Francisco bay area never will be able to cope with its congestion problems by building more and more freeways and facilities for the automobile alone. It does not have the space, it does not have the money, and it does not have the inclination to provide all the freeways and all the parking space for everyone to drive an automobile.

Can any of you ever imagine how New York would cope with its seven million people without its extensive, although somewhat outdated, rapid transit system? The prospect is unthinkable, and just how unthinkable is pointed up in the urgent two-state study of how to expand and improve the present system which Mr. O'Mara described to you.

The Bay Area Rapid Transit Commission studies made it clear, however, that congestion can only be licked through a *joint* use of freeways *and* rapid transit—with freeways providing facilities for trucks, buses, and those workers who must drive their cars and rapid transit providing transportation for the great mass of workers who simply want to get to and from their jobs in the fastest, most economical way possible.

Now what is this "magical" rapid transit I am talking about. Actually, there is no precise definition of rapid transit that everyone will agree on. But, generally, it is characterized by the operation of rail equipment at *very* high average speeds and at frequent intervals over entirely private and grade-separated rights of way. The fact that it does not contribute to, nor is it affected by, congestion on city streets and freeways accounts for its rapidity.

APPENDIX

BECAUSE it can operate at high speeds and because of the inherently great carrying capacity of rail cars, rapid transit can move 40,000 people per lane per hour. In addition, no automobile parking space need be provided for rapid transit users.

In contrast, city streets can move only twelve hundred persons per lane per hour in automobiles, and the hourly capacity of freeways per lane is about two thousand people per hour in autos. And parking space has to be provided somewhere for every car that uses these facilities.

Other characteristics of rapid transit are that stations are spaced far enough apart, but at convenient locations, to permit the equipment to maintain good speed, that passenger loading and unloading are accomplished by means of station platforms level with the train doors, and that the equipment is characterized by high degrees of comfort and safety.

In making its recommendations, the rapid transit commission in the bay area emphasized that rapid transit could not be a "second best" operation. If it was to attract people in sizable numbers from their automobiles and achieve its goal of alleviating congestion, the system would have to be faster, less expensive, and just as convenient as driving.

Keeping these high standards in mind, the commission recommended immediate construction of a 123-mile network of rails on entirely private and grade-separated rights of way linking the five core counties of the bay area. Eventually, this system would be expanded into four outlying counties to meet population and travel requirements of 1980 and 1990.

SUBWAY construction was recommended for the densely built-up sections of downtown Oakland and San Francisco. An underwater tube would tie together the two sides of the bay. In less densely built-up outlying areas, rails would be laid on the ground or in open cuts where possible and on elevated structures where necessary to take advantage of existing rights of way.

Over this rail system, the most modern trains in the world would operate at top speeds of 70 miles an hour to maintain a route *average* of 45 miles an hour, including stops at stations, which would be spaced at an average of about every two miles at locations determined to be the most convenient to the most number of users.

During the morning and evening rush hours, these trains would operate as frequently as ***every ninety seconds*** through key stations. The entire system would be integrated so that only in rare instances would transfers be required.

To point up how this system would unite in a very real sense the entire bay area, I would like to use the hearts of the downtown sections of Oakland and San Francisco as an illustration. In 1954, and this still is true today, the fastest possible time during peak hours by any means of ground transportation between 12th and Broadway in Oakland and Powell and Market in San Francisco was forty-three minutes.

With rapid transit the time would be only eleven and one-half minutes. Similar dramatic savings in time—as well as money—would be made possible throughout the bay area.

NOW, how does such a system become a reality?

Well, I spoke earlier about the need for new laws and new legal approaches in dealing with the problem of mass transportation.

Congestion no longer can be dealt with effectively by one city or one political jurisdiction dealing with just its own specific problems. Congestion has become an area-wide problem, respecting no political boundaries, and must be dealt with by area-wide action. And such action, of course, demands an agency empowered to take area-wide action—a new district or a new authority, or the broadening of powers of some existing agency.

The Bay Area Rapid Transit Commission, of which I have been speaking, was created by the California legislature to study the area-wide problem of congestion. A fact-finding body only, without power to take action, it was financed by $800,000 made available by the state and by the constituent counties. This commission conducted extensive engineering feasibility studies and financial feasibility studies, both of which established that rapid transit was needed and that it would be infinitely more desirable

—and less expensive—than the alternative of doing nothing about congestion.

Then the commission drew up an act to create a *district* organization embracing the five core counties of the bay area and granting sufficient powers to enable the new agency to take up where the commission had to leave off.

The act was passed by the California legislature in 1957 and the district which I am proud to serve as president came into being ten months ago.

Our 16-man board of directors is comprised of outstanding civic leaders appointed on a basis of county population by the boards of supervisors and the city councils of the five counties.

The district is empowered to levy a maximum tax of five cents per $100 of assessed valuation to finance final engineering and financial planning and to conduct a thorough public information program.

Once we have arrived at a final plan, it must be approved by each of the five boards of supervisors and then by a two-thirds vote of the electorate of the district as a whole.

WE have a big job ahead of us—particularly in view of the fact that the estimated cost of the 123-mile system recommended by the former commission is in the neighborhood of $700 million. But the tasks that lie ahead are no more formidable and perhaps even less so than the obstacles we have overcome in arriving at our present point of progress.

Many tough legal problems lie ahead. For instance, how is this system to be equitably financed? We do not seriously entertain the idea that the entire subsidy can be borne by the property taxpayer. Thus, we are looking for other possible sources of revenue. And here are some of the questions we are examining in that connection.

Is rapid transit a "highway purpose," as the term is used in our Constitution, if by easing congestion on existing highways and freeways we will eliminate the need for some additional freeways? If the answer is "yes," then could not gasoline tax receipts logically be used to partially finance rapid transit?

Could sales tax revenues be used to partially finance the system on the basis that rapid transit, by improving traffic circulation, improves business?

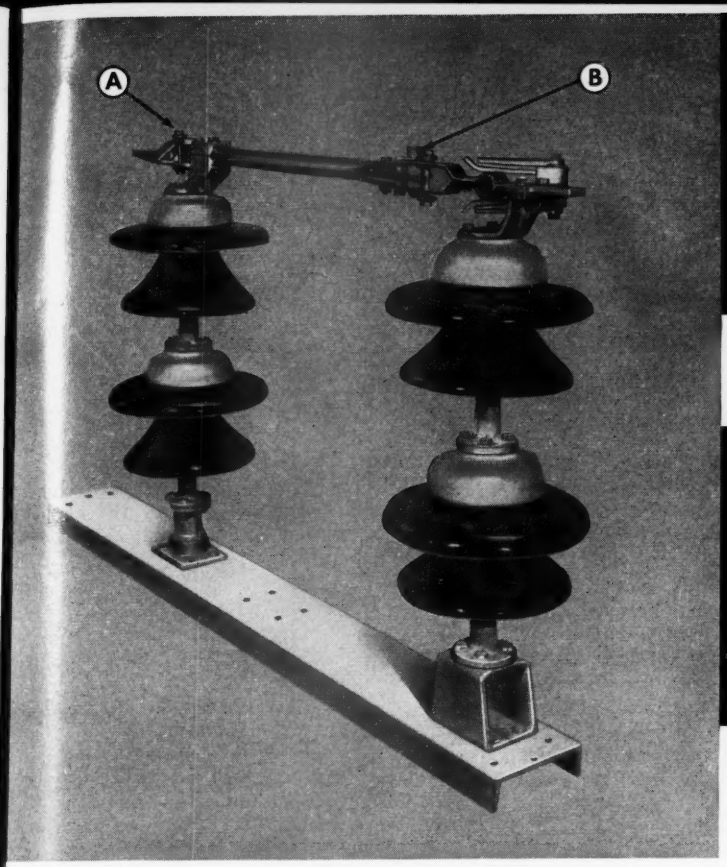
And still another legal problem: Can a state agency such as the California Toll Bridge Authority, which owns and operates all but one of the bridges across the San Francisco Bay, build the transbay link of the rapid transit system, using toll revenues from other facilities to finance construction?

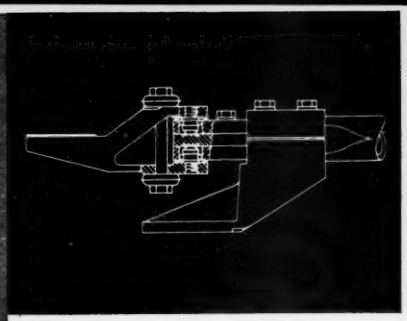
Lastly, would a special property tax levy on a "zone-of-benefit" formula be feasible as a method of partial financing?

THESE are some of the legal questions which we are examining today and which must be answered before rapid transit can become a reality in the bay area.

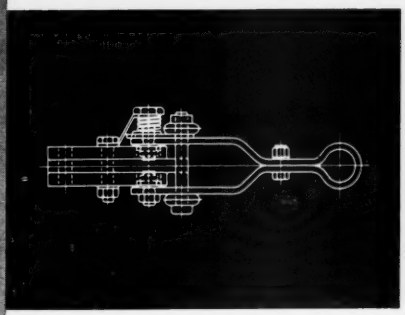
But I am confident that new legal approaches can make possible a new approach to the problems of congestion and, in so doing, make possible a new and confident approach to the future by the bay area and its millions of citizens.

As Samuel Johnson once said: "The law is the last result of human wisdom acting upon human experience for the benefit of the public."





A **NEW-DESIGN SWIVEL TERMINAL.** With pressure right on center of rotating insulator, swivel operates with exceptional ease to prevent torsional resistance from line wires.



B **KNEE-BREAK BLADE CONTACT** provides high-pressure toggle action without putting extra burden on swivel terminal. Maximum operating ease is assured with this combination of swivel and blade contact.

GET MAXIMUM EASE OF OPERATION WITH PMB-40 BRAIDLESS SWITCHES

high-pressure contacts... minimum space requirements

Delta-Star Braidless Side-Break Switches bring the advantages of the popular MK-40 vertical-break switch to applications where ground space and overhead clearances are limited.

Braidless swivel terminals operate with the high-pressure joint directly on the center line of rotation, eliminating drag on conductors during switch operation. Knee-break blade principle provides easy entrance and withdrawal of blade from high-pressure contacts. Large deflections, as on the MK-40, assure uniform, long-life contact pressure.

Ratings are available from 7.2kv to 161kv in 400, 600, and 1200 amperes, with load-interrupting and arc-suppressing attachments on ratings to 69kv. Other horizontal-break models made with center break and double side break.

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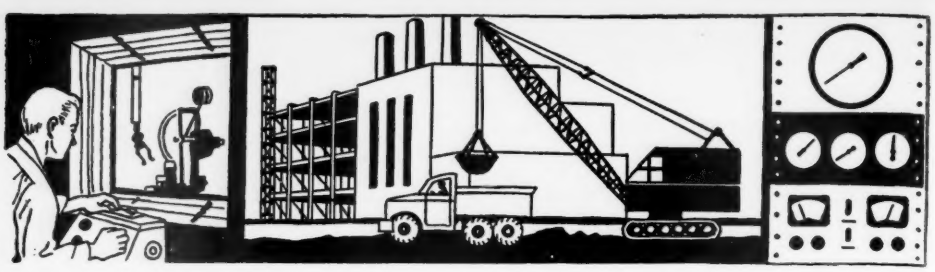

Industrial Progress

Arkansas Power Plans for New Unit Approved

THE Arkansas Public Service Commission approved a plan by Arkansas Power & Light Company to construct and operate a large steam electric generating station on the Mississippi river.

The plant is planned to have an ultimate capacity of some 1.5 million kilowatts. It will have four generating units, including a 325,000-kilowatt turbine generator furnished by Westinghouse Electric Corporation.

The plant's boilers will be fired with natural gas, up to 75 million cubic feet a day, to be supplied under a 15-year contract with Arkansas Louisiana Gas Company.

Computers Playing Increasingly Important Role in Power Industry, Conference Hears

COMPUTERS are playing an increasingly important role in the production, transmission and distribution of electric power, a three-day Power Industry Computer Application Conference, sponsored by the American Institute of Electrical Engineers, was told recently.

The digital computer was described as a "valuable tool" in economic studies of future operations by Robert A. Markel and William C. Marble, of the Philadelphia Electric Company, in a paper, "The Digital Computer as a Tool in Estimating Electric Power Production Expenses for Future Conditions."

V. Converti, of Arizona Public Service Company, in a paper, "Power Systems Studies Made on UNIVAC," said that advantages of using such a large scale digital computer are: Solutions are obtained rapidly, no reading or plotting of results is necessary as comprehensive tabulations of solutions are complete in themselves; no further calculations to reduce measured values are necessary; setting-up time of studies is at a minimum because of case availability on magnetic tape and a complete reference library of system input-output is available to the system engineer.

W. H. Osterle, of West Penn Power Company, Greensburg, Pa., and Mel Kaye, of Royal-McBee Corporation Hollywood, Calif., described the latter company's LGP computer solution of electric load flow problems on a system with 100 busses and 270 lines. They said the solution "compares quite favorably" with larger computers when the difference in rental or purchase price is considered, and that the time of solution compares favorably with alternating current net work computers.

Two Westinghouse Electric Corporation engineers, R. M. Sexton and S. A. Balik, in a paper, "Design of Armature Coils for Large A.C. Motors by Means of High Speed Digital Computers," said that the use of UNIVAC for highly repetitive operations involving a combination of calculations resulted in a substantial saving in man-hours of a technician's time, and even greater future time savings are possible "by combining the results of the existing program with those being developed for stock control, methods analysis and other phases of processing conventional manufacturing information."

"Digital Computer Solution of Distributed Parameter Problems in Electrical Machines," was the title of a paper presented by D. T. Bewley and L. M. Harvey, General Electric Company, Schenectady, N. Y. They said that digital computers are valuable in the study of such problems as the effects of a lightning stroke on the armature of a d-c machine or the evaluation of the resistance of the armature. Such problems, with the aid of a digital computer "may [illegible] ana rigorously in a relatively s[illegible]ort p of time," they said.

The computer has beco[illegible]e a n sity and has value beyond [illegible]hat n ureable in terms of dollars. Dean rington and N. H. Larn[illegible]y, als General Electric Company said paper, "Experience in Using a H Speed Computer in the Desig Large Turbine Generators," in w they described the use of the IBM electronic data-processing mac They added that the computer i essential factor in a number of stu Computer usage is an integral pa an engineer's work, they said.

A third General Electric engi team, G. E. Adams and J. E. G gross, presented a paper, "The I 650 as a Tool for Analysis of Tr mission and Distribution Sy Problems." They said that there wide range of distribution and tr mission system problems for w this computer is a valuable and venient tool because: Many probl which are too lengthy for hand ca lation can be undertaken; producti is increased and man power is leased for more creative work, increased information results in m knowledgeable engineering decisi

Westinghouse to Share Pow System Digital Computer Programs

BASIC digital computer pr[illegible]ograms analyzing problems on ele[illegible]ric ut systems have been offered to the dustry on a share basis b[illegible] West house Electric Corporation

In making the announce[illegible]ent, J[illegible] Dillard, manager of the [illegible]ompa electric utility engineering d[illegible] partm said, "We believe that maxi[illegible]um be fit to the industry can be o[illegible]tained establishing an organizatio[illegible] for free exchange of digital com[illegible]uter p

ms be een various segments of the
ustry.
We p opose," he said, "that man-
cture and utilities join together
et up clearing house for this pur-
e, pe aps administered by an or-
izati such as EEI."
To g this program started," Mr.
lard lded, "Westinghouse will
tribu to such a clearing house in
imm iate future, eight basic pow-
syste programs for use on IBM-
com ters. These will include our
er p grams, such as economic
patch, is well as our recently de-
oped hort-circuit and transient
bility rograms."
n the nterim period while such a
aring house is being set up, West-
house will make the programs avail-
e to utilities that have gained fa-
iarity with their use at the com-
y's East Pittsburgh facilities.
Mr. Dillard also stated that addi-
nal programs now being developed
Westinghouse would be made
ilable periodically as they were
pleted and debugged.
The eight programs that Westing-
use will first make available involve
following problem areas: 1. Self
d mutual drop coefficients; 2. Loss
mulas; 3. Economic Dispatch; 4.
Losses; 5. Load Flow; 6. Short
cuit Studies; 7. Transient Stabil-
; 8. Distribution Feeder Voltage
ntrol.
Release of the first eight programs
d subsequent programs, or estab-
ment of the proposed computer
gram clearing house, will not
nge Westinghouse's present service
customers who use the East Pitts-
gh facilities. Also, for those users
o want assistance in using the re-
sed programs independently, a con-
ting service at a nominal fee will
provided.

Look Magazine Announces Contest for 1959 Adequate Wiring Awards

OOK Magazine has announced that
will present in 1959, for the fifth
consecutive year, its annual awards
for outstanding achievement in the
promotion of adequate wiring and re-
lated activities. In making the an-
nouncement, Alan Waxenberg, Appli-
ce Market Development Manager
the magazine, said that the winners
the LOOK 1959 Adequate Wiring
wards will be selected in a competi-
n open to utility companies, elec-
cal contractors and electrical dis-
butors.

The awards will be presented at the 15th Annual Wiring Promotion Conference, to be held at the Jung Hotel in New Orleans, February 26th and 27th of next year.

In pointing out that the competition is open to all members of the electrical industry groups mentioned above, Mr. Waxenberg stressed that contestants in small communities have an equal chance to win with contestants handling a large amount of business in metropolitan areas. The size of the contestant's business, and the size of the community in which he operates, will be taken into consideration in judging the effectiveness of his accomplishments.

The LOOK Awards are given for the most effective local campaigns aimed at encouraging improvements in the wiring of homes and business establishments.

The 1959 awards will be presented in four categories, and in addition, honorable mention plaques will be given when earned. The four categories are: (1) Community Service Award for utility companies having over 250,000 meters. (2) Community Service Award for utility companies having less than 250,000 meters. (3) Sales Promotion Award for electrical contractors. (4) Merchandising Achievement Award for electrical distributors.

Requests for entry forms should be addressed to Alan Waxenberg, LOOK Magazine, 488 Madison Avenue, New York 22, N. Y., or to the National Adequate Wiring Bureau, 155 East 44th Street, New York 17, N. Y.

New Method of Joining Wires By Brazing Developed by Rome Cable

A NEW system for electric brazing solid and stranded wire—particularly copper wires—has been developed by Maurice G. Steele, development engineer of Rome Cable Corporation, Rome, New York. A U. S. patent has been awarded to Steele and assigned to Rome Cable.

Advantages are said to be: Stronger brazes than were possible previously, minimum length of stiffened wire, minimum annealed length, and no distortion of wire shapes during the brazing operation.

Big Growth Seen for Gas Industry

MAJOR gas consuming areas may require at least four new, thirty-inch transmission lines of 1,000 miles by 1963 or 1964.

This is a main conclusion of an analysis of the natural gas industry prepared by Ford, Bacon & Davis, Inc., engineers and business consultants.

William B. Poor, vice president, said that the problem was "not one of demand but of supply." He termed the need for additional lines "a distinct possibility" for the Eastern seaboard, Great Lakes and California areas.

He predicted that consumption of natural gas would grow at a faster pace than the nation's 5 to 7 per cent annual increase in energy requirements.

Mr. Poor said that there were "very promising developments" for new gas supplies in the Arkansas River basin in Eastern Oklahoma and Western Arkansas and "encouraging explorations" in Oklahoma's Anadarko basin and Texas' Terrell County and Val Verde basin.

"Deeper drilling in some of the older Appalachian fields also promises new supplies," he said.

VEPCO Awards Contract for New Unit to Stone & Webster

VIRGINIA Electric and Power Company has awarded the contract for design and construction of a new 220,000 kilowatt generating unit at the Possum Point power station, near Quantico, Va., to Stone & Webster Engineering Corporation.

The new unit is scheduled for completion in 1961. To be known as Unit No. 4, the new power generating facility will bring total capacity at the Possum Point Station to 440,000 kilowatts.

Stone & Webster Engineering has named L. E. Chadbourne project engineer and H. F. Cleary, construction manager for the project.

Gardner Appointed By Kerite Company

J. B. GARDNER has been appointed assistant chief engineer of The Kerite Company, it was announced recently. He fills the vacancy left early this year by promotion of Ralph B. Norton to chief engineer.

Mr. Gardner has served the firm since 1947 as an electrical engineer at the company's manufacturing plant at Seymour, Conn. He will continue in his new position to operate from the

(*Continued on page* 28)

same plant. Up to now, his work has been concerned with high voltage cable and terminal development and customer engineering problems. He has also been in charge of the cable proving grounds at Seymour.

The company, which was established in 1854, manufactures insulated cable and wire for the railroad, power, and industrial fields.

A.G.A. Safety Achievement Awards Presented to 13 Gas Companies

THIRTEEN gas utility and pipeline companies received the American Gas Association's Safety Achievement Awards at A.G.A.'s 40th annual convention in Atlantic City recently.

The awards, made annually to companies with the lowest accident frequency rates in the industry, were presented by Robert W. Otto, Chairman of Laclede Gas Co., St. Louis, who completed his term of office as A.G.A. president. The frequency rate is the number of disabling injuries times a million divided by hours of exposure.

Honor awards were presented to:

Size		*Frequency Rate*
	Natural Gas Companies	
1501 or more employees	Northern Indiana Public Service Co., Hammond, Ind.	0.25
501 to 1500	Central Illinois Light Co., Peoria, Ill.	0.00
101 to 500	Iowa Public Service Co., Sioux City, Iowa	0.00
100 or less	Wisconsin Southern Gas Co., Inc., Lake Geneva, Wis.	0.00
	Transmission Companies	
1501 or more employees	Trancontinental Gas Pipe Line Corp., Houston, Texas	2.65
501 to 1500	Southern Natural Gas Co., Birmingham, Ala.	0.00
101 to 500	Michigan Gas Storage Co., Jackson, Mich.	0.00
100 or less	Wilcox Trend Gathering System, Inc., Dallas, Texas	0.00
	Manufactured and Mixed Gas Companies	
1501 or more employees	Iroquois Gas Corp., Buffalo, N. Y.	2.60
501 to 1500	Citizens Gas & Coke Utility, Indianapolis, Ind.	2.94
101 to 500	The Hartford Gas Co., Hartford, Conn.	7.94
100 or less	Superior Water, Light & Power Co., Superior, Wis.	0.00
	Liquefied Petroleum Gas Companies	
100 or less	Elizabeth & Surburban Gas Co., Elizabeth City, N. C.	0.00

Bulletin Shows Design Improvements in Exide-Manchex Batteries

DESIGN improvements in its new line of Exide-Manchex stationary batteries are reviewed in a new eight-page bulletin from Exide Industrial Division of The Electric Storage Battery Company, Philadelphia.

Chief among the innovations, which increase float-charge service life and also fit the battery for cycling service applications as well, are new corrosion-resistant positive grids made of Silvium. This patented alloy is 100 per cent more corrosion-resistant than pure lead.

Other advances explained and illustrated in this Bulletin 6205 include: new suspended-plate design, enlarged reservoir of electrolyte, new open spacers, and improved plastic jar design.

The new stationary batteries are used in many applications where long, trouble-free life is essential. Such applications are in electric utilities for switchgear and supervisory control; in communications (telephone and microwave); and emergency lighting (unit and central systems).

For a copy of Bulletin 6205, write Exide Industrial Division, The Electric Storage Battery Company, P.O. Box 8109, Philadelphia 1, Pa.

International Harvester Introduces New Travel-Crew Truck Cabs

SIX-PASSENGER Travel-Crew truck cabs for selected medium heavy-duty International trucks have been introduced by International Harvester Company, it was announced by L. W. Pierson, manager of motor truck sales.

The new Travel-Crew cab is designed for factory installation on A and AC-160 models (16-19,000 lbs. GVW), on A and AC-180 models (19-22,000 lbs. GVW) and for wheel drive models in these two series. The new cab is also available on ACF-180 six-wheel models in both rear-axle and all-wheel drive versions (30-33,000 lbs. GVW).

"Development of the Travel-Crew cab," Mr. Pierson said, "is a direct result of the enthusiastic acceptance enjoyed by our Travelette, the first six-passenger cab offered as factory equipment on pickups and light-duty service utility trucks."

According to Mr. Pierson, the Travel-Crew cab is designed for use by truck operators in many different businesses, including public utilities.

"In some instances, one truck with a Travel-Crew cab can replace two or even more conventional trucks as the smaller Travelette has done," Mr. Pierson said.

The Travel-Crew cab is roomy, yet it increases bumper-to-back-of-cab dimensions on all models by only 5 inches.

As a factory option, the Travel-Crew cab can be purchased under a single warranty on a single order—a factor of major value to truck owners. Another important feature in the Travel-Crew cab development is a special provision for 60 and 84-inch cab-to-axle dimensions on selected models to permit standard body installations without requiring frame modification in the field, Mr. Pierson pointed out.

New Delta-Star Color-Sound Film

A NEW motion picture, demonstrating modern methods and the application of high voltage power equipment manufactured by Delta-Star Electric Division, H. K. Porter Company,

is available for exhibiting.

led "Expanded Service to the rical Industry," the 16 mm film ll color and sound, has a running of 2: minutes. It begins by com- g the opening of the world's first merci electric power plant with world's first commercial atomic r plant at Shippingport, Pa.

enes the Shippingport plant in- shot of an installation of Delta- meta enclosed telescoping cover rator uses. From there the story back through the manufacture, ng, and operation of Delta-Star pment including products of the nas and Electric Service Works. point of dramatic action is a e of tests on the "SG-4" ground- switch at night, with spectacular cts.

& E Offers New Distribution ansformer for Underground Systems

OMPLETELY new distribution sformer designed specifically for ication to underground distribu- systems was unveiled by the & E Corporation of Waukesha, consin and Portland, Oregon in York on October 9th. The initial ing was made to utility execu- s and representatives of industrial business publications at the New ker Hotel.

his new transformer, designated "Terra-Tran," was designed by & E in cooperation with engineers one of the larger utilities to fill ty needs for a distribution trans- mer designed especially for use residential and commercial un- ground distribution systems. It vides, in a compact unit, an eco- nical solution to transformer in- lation for underground distribu- systems.

The transformer is completely self- tained and is designed to be mount- on a concrete pad above ground el. No separate enclosure or pro- tive equipment is required for in- llation. To protect the public and men from accidental contact, all e parts are enclosed in a locked mpartment and a welded-on cover used.

For operation and maintenance, ac- s to the bushings, fuses and discon- cts is gained by opening the hinged r on the operating compartment. facilitate operation, special ex- nally-clamped, high-voltage bush- gs, designed for easy cable connec- tion, and externally clamped low voltage bushings are used.

A unique high voltage fuse of new design, for isolating the transformer from the line in the case of a transformer failure, is supplied on protected-type transformers. It is of bayonet design and can be removed externally for replacement of the fuse element. In conjunction with this externally-replaceable fuse, an externally-operated bayonet-type disconnect switch has been developed to sectionalize portions of the circuit.

The "Terra-Tran" will be available initially in single phase units in a range of sizes from 15 KVA through 100 KVA for operation on 4160 Ground Y/2400 through 12470 Ground Y/7200 volt grounded Y systems. It will also be available in 3-phase units in a range of sizes 75 KVA through 300 KVA for operation on all standard 2400 through 14400 volt 3-phase systems.

New Bendix Unit Cuts Costs Of Data Processing

A MAJOR price break in the electronic computing industry was announced recently by Bendix Aviation Corporation when it introduced a new data-processing system said to cost "significantly less" than comparable equipment now available.

Bendix has developed an accessory called the CA-2 for its low-priced G-15 digital computer that gives punched-card data-processing capabilities to the computer—capabilities formerly offered only by far more expensive machines, the company said.

The complete system—consisting of a G-15, the new CA-2, conventional card readers and punches plus a tabulator—will lease for about $2500 per month, compared to $5000 for currently used systems with similar capabilities, according to Maurice W. Horrell, general manager of the Bendix Computer Division in Los Angeles.

Mr. Horrell said the new equipment "will enable smaller businesses, as well as present users of computing equipment, to obtain a compact, low-priced punched-card computing system with the same performance and versatility as medium-priced computing systems that are now widely used throughout the country."

The unit, designated as the "CA-2," serves as a link between the G-15 and conventional punched-card and tabulating equipment. "It can process standard cards, punched with numeric, alphabetic or special character information," Mr. Horrell said.

"In addition to initial economy, power requirements are one-third less and the equipment installation area is about one-half that of other systems," Mr. Horrell said. He said it could be installed in an average-size office without any special construction. Deliveries are scheduled to start early in 1959.

Mr. Horrell said that "breaking a price barrier in data processing means that Bendix is extending the G-15 into the multitude of scientific and industrial data processing problems that require use of punched cards and volumes of printed copy."

B&W Awarded Contract By Iowa Elec. Lt. & Pwr.

THE Babcock & Wilcox Company reported recently the receipt of a contract for more than $3,000,000 to manufacture and install steam generating equipment at the Sutherland station of the Iowa Electric Light and Power Company, in Marshalltown, Iowa.

Planned as part of a multi-million dollar expansion program at the power plant, the boiler will be one of the first of its kind ever erected west of the Mississippi river. It will be fired with three eight-foot diameter Cyclone furnaces which will burn a total of 42½ tons of Iowa coal per hour at maximum capacity.

B&W officials stated that it will be the first time in the 14-year history of the Cyclone furnace that Iowa coal has been used as fuel. Recently completed tests at the company's Boiler division headquarters in Barberton, Ohio, showed that this type of coal, which is low in heat value and high in moisture ash and sulphur, can be burned very efficiently in the Cyclone, resulting in an over-all efficiency of higher than 88 per cent.

The successful firing of Iowa coal in the Cyclone, spokesmen commented, also is a significant step toward aiding the state in its efforts to develop its mining industry through more widespread application of its natural resources. To date, the coal has been used exclusively with pulverizer and stoker equipment.

Developed by B&W, the Cyclone furnace employs primarily a surface-burning method of combustion that represents a departure from previously accepted methods. In a Cyclone,

(*Continued on page* 30)

coal is crushed, not pulverized, to pass through a #4 mesh screen, and is blown tangentially into the furnace. A thin coating of slag forms quickly on the inner circumference of the furnace, and the larger coal particles, adhering to the slag coating, are burned rapidly as the whirling air sweeps over them at a velocity of approximately 200 miles per hour.

During this operation, temperatures in the Cyclone are substantially above that of ash fusion temperature. As a result, the melted coal ash remains fluid. It drains continuously through a tap hole, flows into the bottom of the primary furnace and then passes as melted slag into a water cooled tank for quenching into solid slag and easy disposal.

In addition to burning Iowa coal, the boiler will be constructed to fire natural gas piped in from Oklahoma and Texas and having a heat value of 1,000 British thermal units per cubic foot.

Present total capacity of the Iowa Electric Light and Power Company, now serving 51 counties in central and northwest Iowa, is 365,881 kilowatts. The utility's headquarters are located in Cedar Rapids.

Niagara Mohawk To Build 100-Mile Gas Pipeline In Northern New York

IN order to extend natural gas service to northern New York, Niagara Mohawk will build more than 100 miles of pipelines from Watertown to Massena, according to the company's president Machold. If approved by public service authorities, the line will make natural gas available to Ogdenburg and the Town of Massena in 1959. The cost of the program is estimated to amount to more than $7 million.

Preliminary work will be done this year. Actual construction will get underway in 1959. President Machold said that Niagara Mohawk decided on the new program after careful consideration of the various ways of securing natural gas for Northern New York. He declared that it was determined that the fastest way and best way to do it was to build company lines connecting with vast sources of supply, including the large storage field developments in Pennsylvania and pipeline connections to the Southwest.

In addition to firm sources of natural gas supply in the United States, Machold said some natural gas may be available from Canada in the future.

Niagara Mohawk has already installed a pipeline under the Iroquois Lock on the St. Lawrence Seaway, and the New York State Power Authority has built 24-inch sleeves in the Iroquois Dam pier to provide for a possible natural gas pipeline between the U. S. and Canada. These facilities would establish a link with Trans-Canada Pipeline to provide a second source of supply in the event Canadian gas should become available.

Generator Ratings Will Increase To 800,000 Kva by 1970, Engineers Predict

GENERATORS rated at 800,000 kva in little more than a decade were predicted recently at the National Power Conference sponsored by the American Institute of Electrical Engineers and the American Society of Mechanical Engineers.

These machines were forecast by S. C. Barton, J. A. Massingill and H. D. Taylor, of General Electric Company, Schenectady, N. Y., if the present trend toward higher ratings continues. They presented a paper, Design Features and Characteristics of Large Steam Turbine-Generators.

"The continuing rapid growth in the ratings of 3600 rpm turbine-generators over the years is responsible for most of their present features, both mechanical and electrical," they said . . . "If the twenty year (growth) trend continues generators of more than 500,000 kva can be expected to be installed by 1965, and 800,000 kva in 1970. Many of the developments to make such generators possible are well along, and others have been planned, but it is too early to describe these projects . . ."

"The variety and complexity of the many developments underlying the phenomenal growth in size of large turbine generators, and their improvement in reliability and smoothness of operation, are so great that only the high spots of the story can well be included here. A significant breakthrough was achieved about five years ago with the development of conventionally cooled generators of over 200,000 kva, employing double frame construction with the new type of core mounting . . . A much greater breakthrough followed almost immediately with conductor cooling for both rotor and stator windings . . . The reliability of these very large generators has been considerably enhanced by the development of Micapal, a greatly improved high voltage insulation for stator coils."

Ebasco Announces New Appointments

EBASCO Services Incorporated announced recently the appointment of H. K. Fairbanks as consulting engineer; H. W. Stuber as chief concrete-hydraulic design engineer and A. T. Larned as associate consultant in the consulting engineering division.

Since joining Ebasco, Mr. Fairbanks has been Project Engineer on a large number of hydroelectric and thermal electric generating stations. He has participated in the selection of sites for several of the largest of the recently built thermal electric stations and has supervised the layout and design of the civil engineering features of these stations which were located in the United States and several foreign countries. Prior to joining Ebasco his work in the field of hydroelectric plant design included the Wilman Dam built by the New England Public Service Company and the Ruthsum Kingdom dams built by the Ashbursen Dam Company.

Mr. Stuber has been with Ebasco for 36 years. In recent years he has been project engineer on Cabin Gorge Hydroelectric Development and supervisor of the design of the Kamishiiba Concrete Arch Dam in Japan. He also designed the Peixe Arch Dam in Brazil and supervised design of the Pelton and North Fork Hydroelectric Developments in the Pacific northwest. He recently returned from Argentina where he had inspected several potential hydroelectric sites.

Mr. Larned joined Ebasco in 19[illegible] was appointed chief civil engineer in 1939 and consulting civil engineer in 1955. Specializing in the design of complete hydroelectric developments including dams, tunnels, flow lines, penstocks, surge tanks and heavy foundations, and in the preparation of special reports and analyses, Mr. Larned has earned wide recognition in these fields. His paper on "The Evolution of the Modern Hydroelectric Plant" was included in the A.S.C.E. Centennial Issue of Transactions. In 1935, he received the A.S.C.E. James Croes Medal for his paper on the Ariel Arch Dam.

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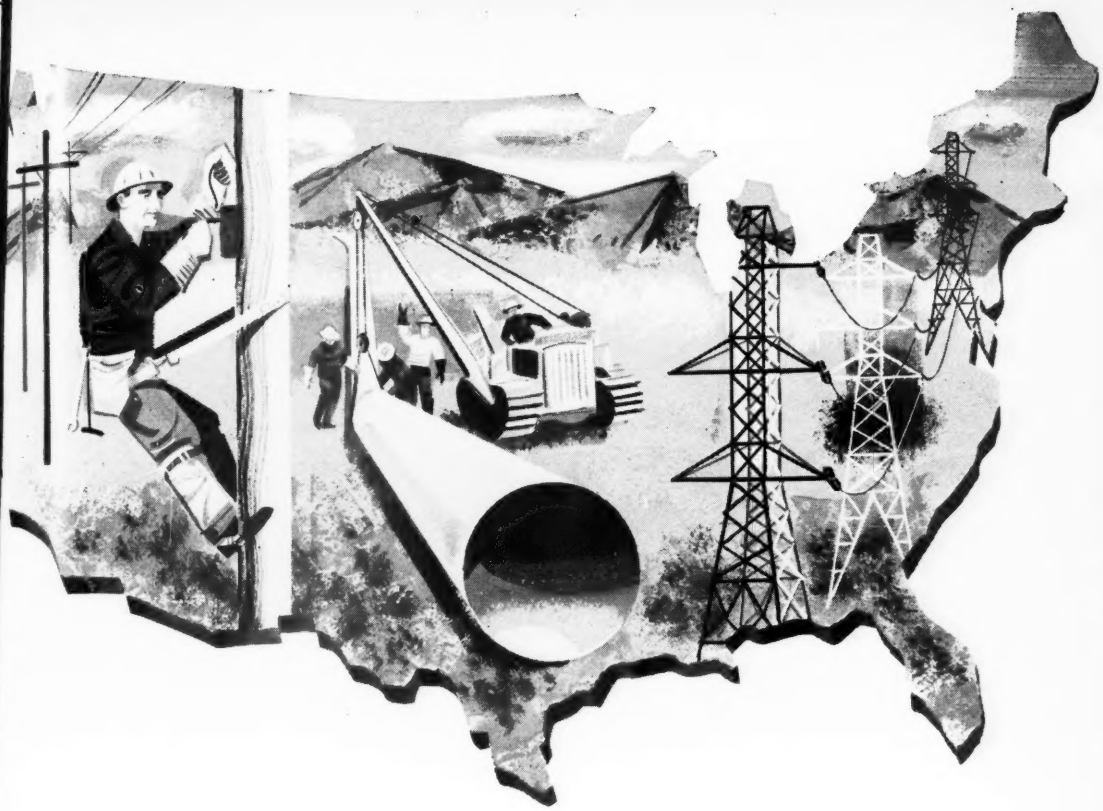

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*Transformer Breaker Interchangeable. Tradename of the General Electric Co.

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